Province of
British Columbia

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CANADIAN
EDUCATION ASSOCIATION

Executive Summary

of the

· MINISTRY OF EDUCATION ·

Annual Report

July 1, 1988 to June 30, 1989

Introduction

On the morning of September 7, 1988, more than half a million British Columbians returned to a school system that was on the verge of major changes. Only weeks before, a Royal Commission reported that major revisions to the system would be required to prepare learners for changes to B.C. society. The central theme of the Commission's report was that the school system, which has served the people of B.C. well in the past, needed a renewed focus on the learner if it was to prepare young people adequately for the challenges of the next century.

During 1988/89, the analysis and evaluation of the school system, in terms of a focus on the learner, and developing a new vision for education, began to take shape. Members of the education community across the province were consulted regarding the development of new education policies. In addition, the development of new educational programs and new assessment and reporting methods began.

A mandate for the school system

During 1988/89, a mandate for the British Columbia school system was crystalized. A primary feature of the mandate was the mission statement:

> **"The purpose of the British Columbia school system is to enable learners to develop their individual potential and to acquire the knowledge, skills, and attitudes needed to contribute to a healthy society and a prosperous and sustainable economy."**

The school system assists in developing educated citizens, who are:

- ✔ thoughtful, able to learn and to think critically, and who can communicate information from a broad knowledge base;
- ✔ creative, flexible, self-motivated and who have a positive self image;
- ✔ capable of making independent decisions;
- ✔ skilled and who can contribute to society generally, including the world of work;
- ✔ productive, who gain satisfaction through achievement and who strive for physical well being;
- ✔ cooperative, principled and respectful of others regardless of differences; and
- ✔ aware of the rights and prepared to exercise the responsibilities of an individual within the family, the community, Canada, and the world.

The system is responsible for students' *intellectual development*, and assists in their *human and social development*, and *career development*.

The means to achieve these goals of education should be equally *accessible* to all residents of B.C. The goals are accomplished through the teaching of a *relevant* curriculum. Teachers and administrators should be of high *quality*. The resources of the education system should be allocated *equitably*, and the system should be managed in order to be *accountable* to the public.

Student Development

Skills Development

Communications (English)

Almost all participating students succeeded in passing the Grade 12 English examination. These students could form complete sentences and proper paragraphs; they were also able to understand the basic meaning of what they read, follow detailed instructions, and fill out detailed application forms. About a third of these successful students were also able to support their ideas with appropriate details, organize their papers consistently, and apply correct rules of grammar. The most successful students demonstrated writing which was sophisticated, and showed originality and style. They understood and used a varied vocabulary, and could also express abstract ideas.

Numeracy (algebra)

Most participating students succeeded in passing the Grade 12 algebra examination. These students could solve complex problems requiring concepts from more than one topic area (for example, geometry and algebra). They could also understand definitions and apply them when solving problems. About one in four students could also understand higher-level applications of definitions and apply the correct formula or process to abstract mathematical data. The most successful students could also solve complex problems, and demonstrated the ability to understand mathematical definitions and apply them to non-routine problems.

Literacy

A literate person is one who can read and write well enough to meet the requirements of an industrialized, technological society. In 1987, B.C. had the highest rate of adult literacy (83 per cent) in Canada (Southam Group, 1987). The Canadian average was 76 per cent.

An international benchmark

In a 1988 international assessment of mathematics and science, a sample of 13-year-old B.C. students achieved the highest overall science score and the third highest score in mathematics. Higher-level thinking and problem-solving skills in both mathematics and science were identified as strengths among B.C. students.

Preparation for career development

During the first few years of school, the development of the attitudes and habits that the learner will need to be successful in the workplaceare important features of the curriculum. In particular, these include a sense of responsibility, good work habits, motivation, and the self-confidence needed to set and achieve goals.

As the student moves into the senior years, the focus begins to shift to the development of the specific skills needed for post-Grade 12 activity. Students decide on career objectives and choose programs appropriate for their career plans. In the last two years of high school, students continue to receive counselling to ensure that their programs are providing them with the requirements to proceed with further education or to enter the work force following graduation.

About three of every four Grade 10 students indicated that after leaving high school they plan to continue in some form of post-secondary education (44 per cent specified university). Only six per cent said they would look for a permanent job and the remaining students had no specific plans. Not surprisingly, 65 per cent of the 1987/88 Grade 12 graduating class continued to some level of post-secondary education.

Human and social development

A 1987 survey of Canadians aged 15-24, conducted by the Canada Youth Foundation, found B.C. youth viewed friendship, being successful, freedom, being loved and having a good education as very important values. B.C. youth rated honesty, cleanliness, reliability, and politeness as their most important values.

A survey of the 1987/88 graduating class found that 92 per cent of the graduates had participated in extra-curricular activities. The most common activities included athletic teams, band, drama, and dance. Two out of three graduates participated in at least one athletic activity.

The quality of B.C.'s educators

Almost all Grade 12 students who graduated from the public school system in 1987/88 were satisfied with their education. Ninety per cent of the students were satisfied with the quality of teaching, 85 per cent with their intellectual development, 82 per cent with their human and social development, and 71 per cent with their career development.

More than half of the people of B.C. think the major factor affecting the quality of education is the "competence and dedication of teachers". An evaluation of administration and teaching strengths in a sample of twenty schools found school administrators to be effective in providing appropriate leadership, using a variety of strategies to assist the different learning needs of students, and managing and assigning teachers appropriately. Similarly, school staff exhibited competence, dedication, and versatility; a professional standard of care; and relationships with students modelled on those of a kind and judicious parent.

The atmosphere of the schools was conducive to learning, students were friendly, industrious, and curious, and communities were satisfied with their schools and supported them. Areas identified as needing improvement included communications, planning for school improvement, and safety.

Cooperation and communication

In order to plan education programs that meet the needs of learners and their communities, the Ministry relies on input from administrators, educators, parents, interest groups and the general public. In turn, education groups and the public are kept informed about the progress of schools through reporting at all levels of the education system.

The Ministry of Education provides information on the overall state of B.C.'s education system and on policy changes. School and school districts also provide information to their communities through reports, public meetings, parent/teacher meetings, informational material, report cards on student progress, and items on school events.

How the public sees B.C. education

British Columbians think education is important. They indicated that education should be the government's top priority, followed by health care, social welfare and economic development. People overwhelmingly agreed that the future funding of programs such as health care depends on the investment made in education today. People also understood the need for change in the education system. More than 90 per cent of British Columbians supported the idea of improving and updating the system. However, although most people in B.C. give the province's schools a passing grade or higher, almost half of the general public gave the schools a "C."

The majority of people (64 per cent) think that about the right amount of money is being spent on education. A significant minority (24 per cent) think more money should be spent. Only 7 per cent think that the amount being spent on education is too much. About one-third of British Columbians think that the value for money spent on education is "good or excellent", almost half think it is "only fair", and about one-fifth say it is "poor".

Access to a variety of programs

Programs leading to graduation should be available to all learners, regardless of geographical location, physical and mental handicaps, gender, ethnic status, or age. The school system should provide a variety of methods for people to be educated.

Public schools are available to learners throughout the province. In addition, distance education and special programs are provided for learners who cannot be taught in schools. Several programs are in place to increase the number of courses available in small and/or remote schools.

Half a million learners attended 1,563 public schools in the province during the 1988/89 school year. Another 33,958 learners entered 224 funded independent schools, and several thousand were educated through home schooling, correspondence courses, non-funded independent schools, band schools (schools completely under the jurisdiction of Native Indian bands), or at Jericho Hill School (operated by the Province).

In 1988/89, the cost of providing public school programs was well over two billion dollars. The Province funded approximately 81 per cent of this cost. Another five per cent came from miscellaneous revenues, and school boards taxed locally for the remainder. The Province also provided $48 million to those independent schools meeting provincial requirements for funding. Independent schools collect fees to support the rest of their costs.

Keeping students in school

Educational programs must give learners opportunities to gain the knowledge, skills, and attitudes appropriate for today and the future. When learners see programs as relevant to their needs, they tend to remain in school. A student's decision to stay in school is also affected by parental choice, mandatory ages of attendance, programs offered by schools, and by economic, social, and community conditions beyond the control of the school system. Students who leave school may not be dropping out but may be choosing instead to leave the school system and return at a later time to complete graduation requirements, or to find alternative methods of achieving graduation.

- ✔ The number of students who graduated in 1988/89 represented about 64 per cent of the students who entered Grade 8 in 1984/85.
- ✔ About seven of every ten students enrolled in Grade 12 in September 1988, graduated that year. This rate has been constant for several years. It is estimated that 90 per cent of the students whose 1988/89 program of study enabled them to graduate did graduate during the year.

Conclusion

Students in B.C. did well in 1988/89. Although there is room for improvement, they are being given the opportunity to acquire the knowledge, skills, and attitudes required to deal with the changing social and economic challenges they will face. The evidence suggests that there is increasing co-operation among the various partners in the education community, and that they are all focussing on meeting the unique needs of each student.

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To The Honourable David C. Lam
Lieutenant Governor of the Province of British Columbia

MAY IT PLEASE YOUR HONOUR:

I have the honour and duty to present the One Hundred and Eighteenth Annual Report of the Ministry of Education, covering the period from July 1, 1988 to June 30, 1989.

Anthony J. Brummet
Minister of Education

To The Honourable Anthony J. Brummet
Minister of Education, Province of British Columbia

DEAR MR. MINISTER:

I take pleasure in submitting, for your approval and transmittal to the Lieutenant Governor, the One Hundred and Eighteenth Annual Report of the Ministry of Education, covering the period from July 1, 1988 to June 30, 1989.

A. L. (Sandy) Peel
Deputy Minister of Education

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PREFACE:

THE ANNUAL REPORT OF THE MINISTRY OF EDUCATION

The annual report of the Ministry of Education summarizes the general effectiveness of the school system in educating learners.

Each chapter discusses one of the eight major objectives of education (three goals of education and five attributes of the school system), outlines the activities that relate to that goal or attribute, and reports the results of those activities.

The data in the report reflect the education system at the provincial rather than district level. The reader is advised to refer to the *Statistical Supplement* if further information is required.

This year, the report emphasizes the results attained by our school system. There has also been an attempt to focus on the learner. For example, in the section on the intellectual development of students, the emphasis has shifted from reporting scores on examinations to interpreting these scores by describing what students are capable of doing.

Finally, a major effort has been made to reflect the spirit of education, often difficult to describe in writing but more easily captured through photographs.

It is hoped that this report will provide the reader with a sense of the abilities of B.C. students.

INTRODUCTION: EDUCATION IN 1988/89

Focusing on the learner

On the morning of September 7, 1988, almost half a million British Columbians returned to a school system that was on the verge of major changes.

Only weeks before, a Royal Commission had reported that major revisions to the system would be required to prepare learners for changes in B.C. society.

Society has seen the rapid development of computer and telecommunication technologies, the growing importance of knowledge-based industries as part of a more diversified economy, the increasing strength of Pacific Rim nations, shifting immigration patterns, and changes in family and social structures. These changes have a significant impact on the education system.

Children have a natural enthusiasm for learning

Increasingly, our society is a blend of cultures

The growth of computer and telecommunications technologies and the new economic importance of knowledge-based industries demand that our society develop better educated, better trained individuals who are able to adjust to rapid technological change.

The emergence of the Pacific Rim nations as world economic powers and important trading partners of British Columbia means that the education system must prepare students to work with and understand these nations in an increasingly international context.

The culture of British Columbia is more diverse than at any time in the past. The majority of immigrants to British Columbia now arrive from non-English speaking countries, and the school system must provide programs that meet the needs of these new learners.

Changes in family and other social structures mean that schools are increasingly expected to provide for the social as well as the educational needs of the learner. In many cases, the child's parents or parent work, and the education system is expected to assume a larger role in child development and supervision than ever before.

Further, there have been important changes in the status of women and the role women play in the economy and society in general. In order to support the increasing participation of women in occupations and careers that were once the domain of men, the school system must continue to encourage female participation in traditionally male-dominated courses.

The emergence of the Pacific Rim creates a new view of the world.

A Royal Commission points to the future

The report of the Royal Commission on Education, released August 4, 1988, set into motion a series of consultations, policy developments, and — before the 1988/89 school year was over — a draft of the first total revision of the *School Act* in 31 years.

The central theme of the Royal Commission report is that the school system, which has served the people of British Columbia well in the past, needs a renewed focus on the learner if it is to prepare young people adequately for the challenges of the next century.

Computers provide a powerful learning tool

The system begins to change

Over the 1988/89 school year, the monumental task of analyzing and evaluating the components of the system in terms of a focus on the learner, and developing a new vision of the education system, began to take shape.

Education groups across the province were consulted about how best to implement Royal Commission recommendations. An Education Policy Advisory Committee, representing all major groups with a stake in the education system, was established to help guide the development of new education policies.

New approaches to curriculum began to be developed, a new *School Act* was drafted, planning papers to span the next 10 years were created, and the purpose of the system was crystalized in a mission statement that was clearly focused on the learner.

"The purpose of the British Columbia school system is to enable learners to develop their individual potential and to acquire the knowledge, skills, and attitudes needed to contribute to a healthy society and a prosperous and sustainable economy."

In carrying out this mission, the school system will assist in developing educated citizens. The Ministry visualizes educated citizens as:

- ✔ thoughtful, able to learn and to think critically, and who can communicate information from a broad knowledge base;
- ✔ creative, flexible, self-motivated and who have a positive self image;
- ✔ capable of making independent decisions;
- ✔ skilled and who can contribute to society generally, including the world of work;
- ✔ productive, who gain satisfaction through achievement and who strive for physical well being;
- ✔ co-operative, principled and respectful of others regardless of differences;
- ✔ aware of the rights and prepared to exercise the responsibilities of an individual within the family, the community, Canada, and the world.

The potential of the educated citizen is in each of us

All assessments of the success of the school system in educating learners refer, ultimately, to this mission statement and to the ideal of the educated citizen as the desired outcome.

Goals of education and attributes of the school system

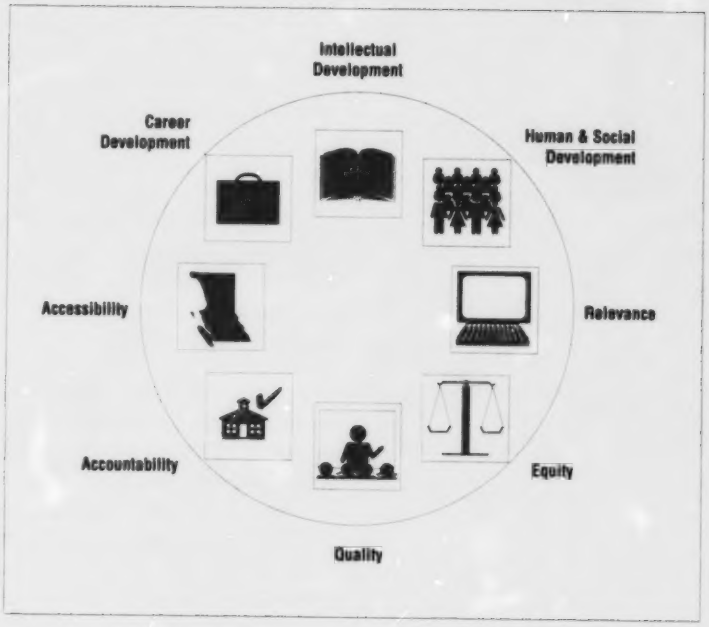
The mission of the school system is accomplished through the achievement of three goals for students — intellectual development, human and social development, and career development. Further, the school system is expected to encompass five system attributes: accessibility, relevance, equity, quality, and accountability. These goals and attributes are the framework for the main body of this annual report.

At the centre of the education system are the students. The system is responsible for their *intellectual* development, and assists in their *human and social* development, and their *career* development.

The means to achieve these goals of education should be equally *accessible* to all residents of British Columbia.

The education goals are accomplished through the teaching of a *relevant* curriculum. Teachers, administrators, and instruction should be of high *quality*.

The resources of the education system should be allocated *equitably*, and the system should be managed in order to be *accountable* to students, their parents, and ultimately the public.



The British Columbia school system

The school system recognizes the social aspect of the learning environment . . .

The British Columbia school system provides learners with three principal means of access to education: public schools, independent schools, and correspondence and distance learning.

Half a million learners attended 1,563 public schools in the province during the 1988/89 school year. Another 33,958 learners entered 224 funded independent schools, and several thousand were educated through home schooling, correspondence courses or the Jericho Hill School for the Deaf — a school operated by the Province.

In September 1988, the public school system enrolled 499,994 students, including 157,909 students in Kindergarten-Grade 3 , another 261,343 students in Grades 4-10, and 80,742 students in Grades 11 and 12. The total enrolment included 13,353 special ungraded students.

. . . and the value of personal experimentation

In 1988/89, the public school system employed 29,946 educators, while an additional 2,500 educators were employed by independent schools. The term educator includes both classroom teachers and administrative officers (principals, vice-principals, and directors of instruction).

In 1988/89, the British Columbia school system was governed principally by the *School Act*, *Teaching Profession Act*, *School Support (Independent) Act*, and *Education (Interim) Finance Act*.

Management of the public schools is a responsibility shared between the government of British Columbia, represented by the Ministry of Education, and 75 locally elected school boards. The Ministry of Education is responsible for ensuring that the

education system provides students with opportunities for a quality education in a cost-effective manner. The Ministry sets standards and overall directions for the education system and provides leadership and encouragement to all education agencies in the province. Major high-level provincial concerns include: finance and facilities; program direction, development, and implementation; student access and achievement; teaching performance; and system evaluation and public accountability.

The magic in a classroom can be totally absorbing.

Teachers have responsibility for classroom instruction and management, and administrative officers for school management. Within each district the public school system is managed by the local school board.

Operation of independent schools is the responsibility of the board of directors of each school, but the Province sets criteria for funding and evaluation. Management of correspondence education is a responsibility of the Ministry of Education, although this responsibility has been delegated to school boards through operation of regional correspondence schools.

The cost of running the public school system is well over two billion dollars. Funding of public schools in British Columbia is shared between the Province and the school boards. In recent years, the Province has funded approximately 80 per cent of this cost. Another five per cent comes from miscellaneous revenues, and school boards tax locally for the remainder.

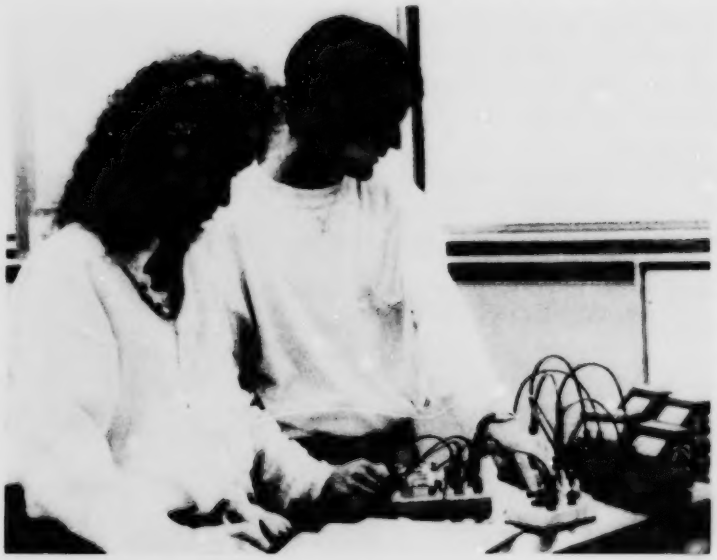
The Province also allocated almost $48 million (including amounts for special education) to fund independent schools that meet provincial requirements. In addition, independent schools collect fees to support the rest of their costs.

GOALS OF EDUCATION

A major function of the school system is the development of knowledge, skills, and attitudes which society considers important. It is generally agreed that schools have the major role in students' intellectual development and share the responsibility with the family and other institutions for students' human and social development, and for their career development.

INTELLECTUAL DEVELOPMENT

"To develop the ability of individuals to analyze critically, reason and think independently, and acquire basic learning skills and bodies of knowledge; to develop in students a lifelong appreciation of learning, a curiosity about the world around them, and a capacity for creative thought and expression."



Circuitry in the science lab: building a foundation for the future

Over the last decade, learners have shown improvement in most subject areas. Student writing has improved dramatically, as has student reading, though to a lesser degree. Grade 8 students in British Columbia ranked first in science and third in mathematics on a 1988 International Assessment of Mathematics and Science involving six countries and four provinces.

Students in British Columbia display creativity and enthusiasm in a wide variety of projects, both in and out of school.

Ability to analyze critically, reason and think independently, and acquire basic learning skills and bodies of knowledge

In past annual reports, the intellectual development of students was reported, for the most part, in terms of marks on provincial examinations. Because this kind of reporting gives the reader very little indication of what students can actually do, detailed Grade 12 Provincial Examination results are reported only in the *Statistical Supplement*.

An alternative way of looking at intellectual development is to describe the results of examinations in terms of what they indicate about the knowledge, skills, and attitudes of learners. As much as possible, this approach has been taken in looking at the results of the three main provincial-level indicators of student achievement: Grade 12 Provincial Examinations, the provincial assessments of learners in Grades 4, 7, and 10, and the International Mathematics and Science assessments. However, it is clear that a reorientation of the instruments used to measure intellectual development is necessary before it will be possible to provide a complete report on the achievements of students in British Columbia.

Success can be measured by how well students learn together, as well as how well they perform individually and on examinations

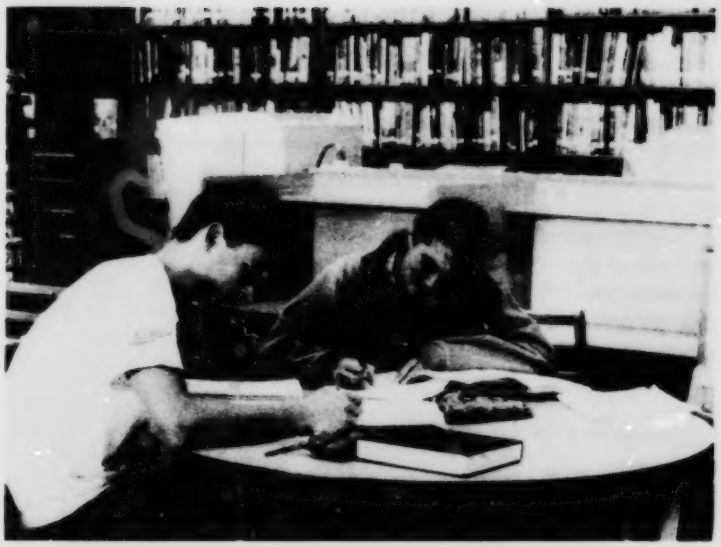
Achievements of graduating students

This section describes student performance on Grade 12 Provincial Examinations in terms of what students can do. Algebra and English were chosen because they exemplify the important skills of numeracy and literacy.

Approximately 85 per cent of Grade 12 students participated in the English examination, and 40 per cent in the algebra examination. This reflects student participation in mandatory courses (they must take English 12 or Communications 12) and their selection of optional courses (algebra is optional).

English

Ninety-five per cent of participating students succeeded in passing the Grade 12 English examination. Success meant different things for different students. Broadly, there were three levels of success: satisfactory, good, and excellent.



Effective learning takes place in an atmosphere where knowledge is readily available

Achievements of students at a satisfactory level of success

Sixty per cent of the students who passed the English examination achieved a satisfactory level of success. In response to questions requiring written answers, they formed complete sentences and proper paragraphs. They could describe a character in a work of fiction and could support their conclusions with reference to the text.

These students understood the basic meaning of what they read and were able to follow detailed instructions. They could, for example, fill out a detailed application form. They were able to understand and apply simple literary terms such as 'setting' and 'simile'. They recognized transition words and phrases such as 'therefore' and 'in conclusion' in passages of writing.

Achievements of students at a good level of success

About 30 per cent of the students who passed the English examination achieved a good level of success. Their writing and reading skills were superior to those demonstrated by the satisfactory group.

Students at this level of success wrote compositions that were readable but unexciting. They were able to support their main ideas with appropriate details. The organization of their papers was consistent. Sentences were controlled, vocabulary varied, and errors minor. Paragraphs were well-formed. The students correctly applied rules of grammar and usage, and recognized relatively subtle differences in word meanings. For example, they could distinguish between 'mechanized' and 'computerized'.

They could read and analyze different types of literature such as fiction, non-fiction, and poetry, and could answer questions about theme, tone, rhyme scheme, and metaphor. They understood the associations words bring to mind as well as their dictionary meanings. They would understand, for instance, that the word 'winter' can embody human bleakness and lifelessness as well as simply naming one of the four seasons.

Achievements of students at an excellent level of success

Seven per cent of the students who passed the English examination demonstrated an excellent level of achievement. They could do everything the satisfactory and good achievers could do, and more.

Their writing was sophisticated, showing originality and style. These students understood and used a varied vocabulary and could express abstract ideas.

Students achieving an excellent level of success could also read and evaluate many different types of literature. They could recognize themes in literature and had grasped the metaphorical language of poetry.

Literacy skills create a world of learning potential within the individual

Examples of questions each of the three groups of students succeeded in answering. Questions refer to the poem "Swimmers", excerpts from which are reproduced below.

SWIMMERS by Louis Untermeyer

I took the crazy short-cut to the bay
Over a fence or two and through a hedge,
Jumping a private road, along the edge
Of backyards full of drying wash it lay.
I ran, electric with elation,
Sweating, impetuous and wild
For a swift plunge in the sea that smiled,
Quiet and luring, half a mile away.
This was the final thrill, the last sensation
That capped four hours of violence and laughter:
To have, with casual friends and casual jokes,
Hard sport, a cold swim and fresh linen after...
And now, the last set being played over,
I hurried past the ruddy lakes of clover,
I swung my racket at astonished oaks
My arm still tingling from aggressive strokes.
Tennis was over for the day—
I took the leaping short-cut to the bay....

Back on the curving beach I stood again,
Facing the bath-house, when a group of men,
Stumbling beneath some sort of weight, went by.
I could not see the hidden thing they carried;
I only heard: "He never gave a cry"—
"Who's going to tell her?" —"Yes, and they just married"—
"Such a good swimmer, too"...And then they passed;
Leaving the silence throbbing and aghast....

Example of a question the "satisfactory" group could answer

The "fresh linen" in line 12 refers to

A a good meal.
B clean clothing.
C a burial shroud.
D refreshing sleep.

Example of a question the "good" group could answer

The principal function of lines 47 to 54 is to introduce

A a sentimental tone
B an engaging dialogue
C a disturbing contrast
D an emotional flashback

Example of a question the "excellent" group could answer

In paragraph form, describe three aspects of the swimmer's personality revealed in this poem. Each aspect of his personality which you describe must be accompanied by a supporting quotation from the poem.

Algebra

Ninety-one per cent of participating students succeeded in passing the Grade 12 algebra examination. These students demonstrated success at three levels: satisfactory, good, and excellent.

Achievements of students at a satisfactory level of success

Of the students who passed the algebra examination, 54 per cent succeeded at a satisfactory level. Students at this level could solve complex problems requiring the application and integration of concepts from more than one topic area. The solutions, for example, might require drawing on both geometry and algebra. These students also demonstrated the following abilities:

- ✔ they could change the form of an equation and extract information from that form;
- ✔ they understood definitions and could apply them when solving problems; and
- ✔ they could recognize a graph of a mathematical form.

Some learners grasp concepts more thoroughly through demonstration.

Example of a question the "satisfactory" group was able to solve.

Changing the form of an equation and extracting information from the form:

When expressed as a *single* radical, $2^{1/2}x^{1/6}y^{2/3}$ equals

A. $\sqrt[6]{8xy^2}$ C. $\sqrt[6]{4xy^4}$

B. $\sqrt[6]{2xy^2}$ D. $\sqrt[6]{8xy^4}$

Achievements of students at a good level of success

About 25 per cent of the students who passed the algebra examination achieved a good level of success. In addition to being able to solve the problems that satisfactory students could solve, they demonstrated the ability to:

- ✔ understand higher-level applications of definitions;
- ✔ generate mathematical forms from graphic representations;
- ✔ make complex changes of form from mathematical equations, expressions, or formulae; and
- ✔ apply the correct formula or process to abstract mathematical data.

Example of a question the "good" group was able to solve.

Generating mathematical forms from graphic representations:

How many distinct points of intersection are there for the graphs of the conics $x^2 + y^2 = 16$ and $y = x^2 + 5$?

A. 0 B. 1

C. 2 D. 4

Achievements of students at an excellent level of success

Nearly 15 per cent of the students who passed the algebra examination achieved an excellent level of success. In addition to being able to solve the same kinds of problems that the satisfactory and good achievers could solve, these students were able to recognize unstated assumptions and solve complex problems. The excellent achievers demonstrated the ability to:

- ✔ understand reciprocal identities;
- ✔ understand graphical representation based on algebraic representation;
- ✔ fully understand mathematical definitions and apply them to non-routine problems.

Example of a question the "excellent" group was able to solve.

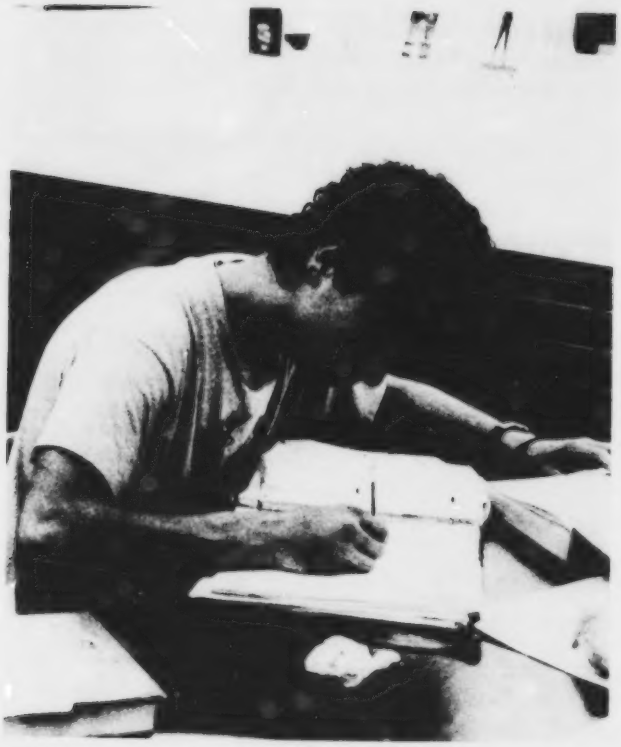
Understanding a graphical representation based on an algebraic representation:

> A rectangular garden of area 20 m^2 is to be surrounded by a grass border 1.5 m wide. The area of the grass and garden together is 70 m^2. Use a system of two equations in two variables to find the dimensions of the garden.

Learners in funded independent schools

Because students in funded independent schools must meet the same graduation requirements as students in public schools, they too demonstrate their accomplishments by writing Grade 12 Provincial Examinations and participating in the Provincial Learning Assessment Program.

The reading and writing skills of learners



The ability to abstract information from other sources is essential to higher-level thinking

This section describes the performance of students in Grades 4, 7, and 10 in a 1988 provincial reading and writing assessment. As with the descriptions of Grade 12 provincial exam results, the emphasis in this report is on what students are able to do rather than on marks or letter grades.

While it is true that at the individual level the learner's profile should reflect things that the student can do, provincial level recording of student performance must also identify areas of weakness in order to address broad program concerns.

Reading

About 85 per cent of students in Grades 4, 7, and 10 were able to read a variety of materials at a satisfactory level of understanding.

In general, students in these grades were able to recognize basic information in the material they read.

Most Grade 4 students could understand stories and could conclude the author's purpose, but one third were unable to support their opinion.

About 90 per cent of Grade 7 students could understand and interpret narrative passages and stories, but most had some difficulty supporting their opinions with specific references to the text. These students also had difficulty evaluating a newspaper article incorporating scientific content.

Grade 10 students performed at a superior level in understanding and interpreting poetry. On the other hand, they found it difficult to integrate material from the text to support their views.

Attitudes toward reading

British Columbia students in Grade 4, in particular, and in Grades 7 and 10, were reading more in 1988 than they were in 1984, and had a more positive attitude toward reading. These changes are particulariy important because good reading habits and attitudes tend to result in higher reading achievement scores.

Writing

The 1988 assessment of writing achievements indicated that about 95 per cent of students in Grades 4, 7, and 10 were able to write satisfactory English.

In writing narrative papers, these students demonstrated control of basic sentence structure and vocabulary. Their papers were generally clear and focused. However, students demonstrated little sophistication in thought or language, and few instances of individuality.

In writing descriptions, students in Grades 4, 7, and 10 were able to create an image of what they were describing. However, detail was lacking, and language was often imprecise and had errors in syntax.

In opinion papers, the students' positions were apparent but the arguments weak. Supporting examples were often incomplete or immature, and their relationship to the writer's position was often unclear.

The fluency and writing style of Grade 4 students were particular strengths. Students did not have difficulty generating ideas and writing at length about topics provided.

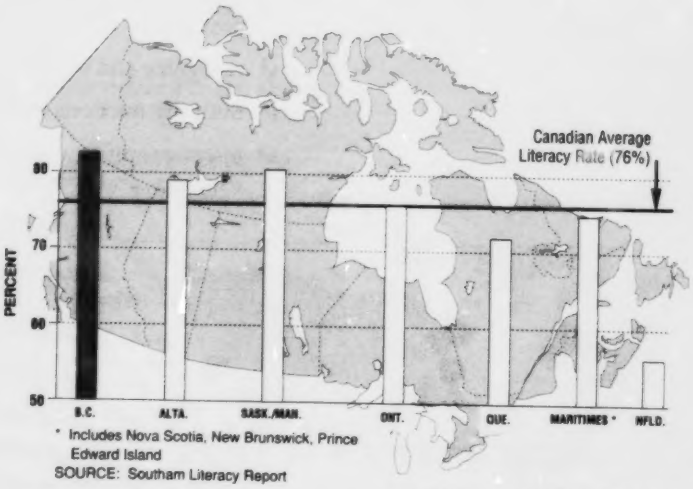
Overall, the quality of Grade 7 writing was impressive. Most Grade 7 students focused on the topic, and were able to write fluently, spell properly, and punctuate sentences correctly. However, diction and the use of pronouns were areas of weakness.

Many Grade 10 students demonstrated a sense of personal commitment in their writing. As well, students focused on the topic, were able to write fluently, and showed considerable strength in using dialogue. However, their papers lacked sentence variety and their ideas were poorly elaborated.

Students wrote considerably more during their free time than they did 10 years ago. Most students enjoyed writing and felt that it was important to be able to write well.

Literacy in British Columbia

A literate person is one who can read and write well enough to meet the requirements of an industrialized, technological society. In 1987, B.C. had the highest rate of adult literacy — 83 per cent — in Canada (Southam Group, 1987). This compares with a literacy rate of 56 per cent in Newfoundland, 76 per cent in Ontario, 79 per cent in Alberta, and a Canada-wide average of 76 per cent.



Literacy rates in Canada, 1987

Despite this relatively high rate of literacy, the human, social, and economic costs of illiteracy are so great — people who are illiterate may have trouble reading a newspaper, reading instructions on a medicine bottle, writing letters, finding a number in the phone book, filling out forms, or reading product names in stores — that literacy for all British Columbians is a continuing goal of the education system.

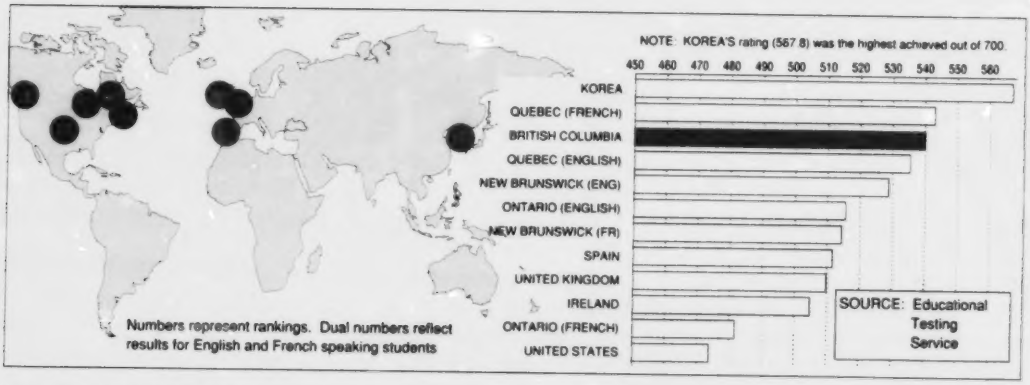
B.C. student achievement: an international comparison

A sample of 13-year-old British Columbia students participated in the 1988 International Assessment of Mathematics and Science. The B.C. students achieved the highest overall science score and the third highest score in mathematics.

Higher-level thinking and problem-solving skills in both mathematics and science were identified as areas of strength for B.C. students.

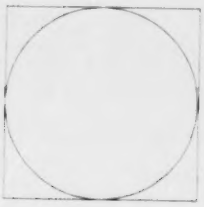
In mathematics, a high level of performance was defined as the ability of a student to:

- ✔ apply a range of problem-solving strategies to complex problems;
- ✔ recognize and extend number patterns;
- ✔ multiply fractions and decimals; and
- ✔ measure angles, understand characteristics of circles and triangles, and compute perimeter, area, and volume.



International Mathematics Assessment Results, 1988/89

Students who demonstrated these abilities could solve problems such as the following:



The length of the side of this square is 6. What is the radius of the circle?

A) 2 B) 3

C) 4 D) 6

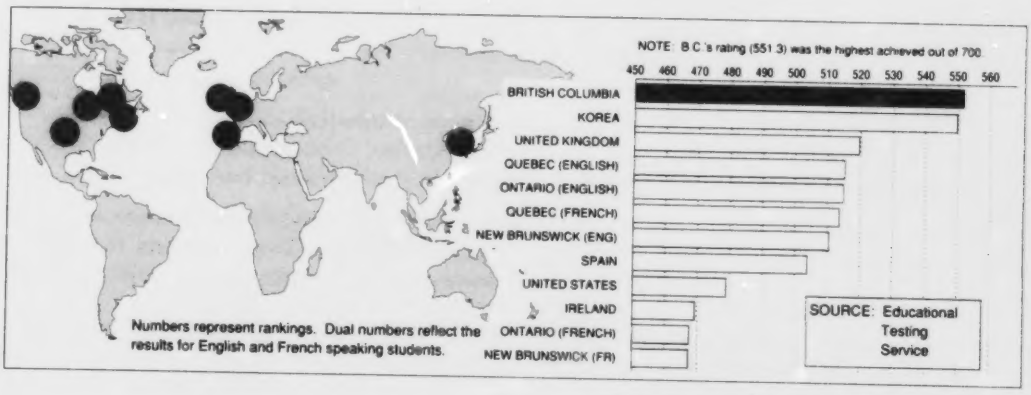
E) 8 F) 9

G) I don't know

A question such as this was answered correctly by 24 per cent of B.C. students tested, second only to the 40 per cent of Korean students who answered correctly. The corresponding percentages for other provinces or countries ranged from seven per cent for French-speaking students in Ontario to 22 per cent for French-speaking students in Quebec .

In science, a high level of performance was defined as the ability of a student to:

- ✔ infer relationships and draw conclusions by applying facts and principles;
- ✔ interpret figures and diagrams; and
- ✔ demonstrate an understanding of advanced facts and principles in designing experiments and interpreting data.


NOTE: B.C.'s rating (551.3) was the highest achieved out of 700.
450 460 470 480 490 500 510 520 530 540 550 560
BRITISH COLUMBIA
KOREA
UNITED KINGDOM
QUEBEC (ENGLISH)
ONTARIO (ENGLISH)
QUEBEC (FRENCH)
NEW BRUNSWICK (ENG)
SPAIN
UNITED STATES
IRELAND
ONTARIO (FRENCH)
NEW BRUNSWICK (FR)
SOURCE: Educational Testing Service
Numbers represent rankings. Dual numbers reflect the results for English and French speaking students.

International Science Assessment Results, 1988/89

Students who demonstrated these abilities could solve problems such as the following:

A child sits at the end of a seesaw 6 metres long. The balance point is in the middle of the seesaw. The mass of the child is 25 kilograms. If your mass is 50 kilograms and you wish to balance the seesaw, at approximately what distance from the balance point would you need to sit on the opposite side?

A) 0.5 metre
B) 1.5 metres
C) 2.0 metres
D) 3.0 metres

More than 30 per cent of B.C. and Korean students demonstrated satisfactory levels of higher-level thought in science — higher than any other participating jurisdiction. The corresponding percentages for other provinces or countries ranged from six per cent for French-speaking students in Ontario to 21 per cent for the United Kingdom.

The experimental method gives practical reality to many ideas first presented in a classroom setting

Ways of Testing Student Performance

The major province-wide ways of testing student performance are the Provincial Examination Program, the Provincial Learning Assessment Program, and participation by B.C. students in international assessments.

Provincial Examinations

Provincial examinations require students to respond to both multiple-choice and written questions. The percentage of questions requiring written answers varies from a low of 25 per cent in algebra to a high of 70 per cent in English. Approximately 25 per cent of the provincial examination questions test higher-order thinking skills, 50 per cent test student understanding of topics, and the remaining 25 per cent ask for recall of specific information.

Provincial examinations are designed, developed, reviewed, and marked by committees of experienced B.C. teachers.

Provincial Learning Assessments

Each year the Ministry of Education conducts assessments in core curriculum areas in Grades 4, 7, and 10. Additional assessments are conducted as the need arises. Provincial assessments identify educational strengths and weaknesses.

In 1988/89, the assessments that were conducted included reading and writing for Grades 4, 7, and 10 students, French Immersion for Grades 7 and 10 students, and Family Life Education for Grades 7, 9, and 10 students.

International Assessments

By regularly participating in international assessments, the province of British Columbia allows its students to demonstrate what they can do in comparison to the achievements of students in other countries.

In 1988, B.C. students participated in an International Assessment of Mathematics and Science for 13 year old students (mostly Grade 8). Schools were sampled from all areas of British Columbia and classes to be tested were then sampled from within these schools.

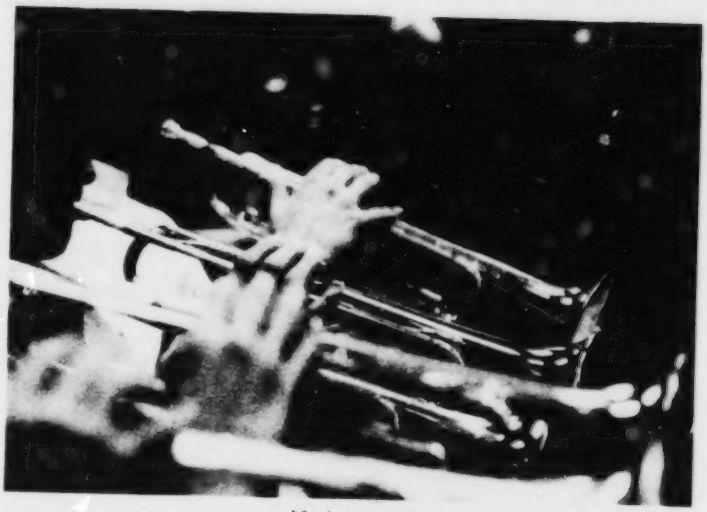
The assessment involved six countries: Canada, Ireland, Korea, Spain, the United Kingdom, and the United States. Within Canada, four provinces — British Columbia, Ontario, New Brunswick, and Quebec — were participants.

* More information about procedures for provincial examinations, provincial learning assessments, or international assessments is available from the Communications Branch of the Ministry of Education.

Lifelong appreciation of learning, curiosity about the world, and creative thought and expression

It will be clear to anyone attending a school concert or art exhibition, reading a child's creative writing, or seeing a student demonstration, that there is a great deal of creative activity going on in the school system.

Here especially, facts and figures will not tell the story. Yet the energy displayed in these creative endeavors is prized not only for the works created, but also because it reflects qualities that students will carry with them throughout their lives.



Music is more than performance: it is also discipline

Creativity in the video medium involves both art and technology

Poetry by this Grade 12 student offers a new view of those around her . . .

LIARS By Laura Walsh

Cigarette smoke immortalizes the image
Of youthful faces poised in stimulating
exchanges of intellect,
Delicately holding styrofoam coffee cups
They congratulate each other's consciousness.
And then, every so often, glance smugly out the window
To their cars in the parking lot.
Shed a few tears over the ravaged nations.
Curse all the corrupt governments
And swap a bit of malice
About the kids at school.
Sauntering away, they are glowing with
self-righteousness.
Pinned blatantly
Upon each of their jean jackets
Is a Peace button.
Peace, man.
Yah.
Peace.

THE BLACK SHEEP By Toshie Arakawa

The incessant chatter of peewee tongues
ceases to a pianissimo
as I enter the institution
A room feebly decorated by a colourful alphabet
A semi-circle of wriggling bodies, all aware
of my entrance
Cowering behind Mother's skirt like a hunted
gerbil
I venture to see
An exuberant array of blond hair and blue eyes
investigating
my inky straight hair and strange foreign
features

A delicate use of prose by a Grade 11 student.

. . . while a Grade 11 student offers a new perspective on a familiar scene

IRIS By Yvonne Hammond

The slim girl sits alone on the edge of the large porch, her bony knees drawn under her chin. Around her the rain pours in thick currents, as if some invisible and celestial hand were wringing the sky. "The rain is dirty," thinks the girl. "Most likely it's nuclear rain caused by political people, who think themselves greatly wise, and tamper with the natural forces beyond their control." The rain shrouds the girl in a desolate and hazy veil, so that only the girl and the old house exist, alive with the atmospheric weeping. The sun is tainted beyond soapy clouds which hang like a mobile in the sky.

The girl's eyes are drawn to a solitary white iris which stands tall and proudly erect in the tangled, rampant, and confused garden. The iris is delicate, but brings the image of strength to the girl's mind as she watches it sway under the rain's offensive.

The girl's boyfriend once brought her irises. They were crisp and faded blue, as were her boyfriend's eyes. She imagined old people's tears must resemble the shade of the irises her boyfriend gave her.

The girl had felt badly about the flowers; they were dead, severed from their life source. She had arranged the flowers in a slim, white china vase. Soon the flowers had withered, like the discarded cocoon of a magnificent butterfly, and the girl had thrown them away with the week's trash.

The girl looks down to see the white iris has broken under the rain's torrent, and a thin stream of muddied rainwater has stained its virginally white petals.

Suddenly, the sun cascades through the clouds, shining gloriously down with intense passion upon the girl, the dead old house, and the crumpled iris.

Creation: caring for detail while nurturing the overall design

HUMAN AND SOCIAL DEVELOPMENT

"To develop in students a sense of self-worth, and personal initiative; to develop an appreciation of the fine arts and an understanding of cultural heritage; to develop an understanding of the importance of physical health and well being; to develop a sense of social responsibility, and a tolerance and respect for the ideas and beliefs of others."

The human and social development of students involves the family and the community as much as the school system.

Information from recent surveys indicates that, on the whole, B.C. students think independently. They have a well-developed sense of the value of their own opinions and they are not easily influenced by peer group pressure. They place more importance on friendships and relationships than on being popular.

School friendships are often bonds which link school and community

Self-worth, personal initiative

Friendships are close . . .

A 1988 assessment of the Family Life Education Program indicated that learners in Grades 7, 9, and 11 have a strong sense of self-worth. More than 80 per cent agreed with the following statements:

- ✔ "My own values and opinions have a strong influence on the decisions I make."
- ✔ "When a person whom I respect has a different opinion from me, I can speak up for my ideas."
- ✔ "When my friends try to push me into something that I do not want to do, I know how to say 'no'."

The goals and values of B.C. youth

In a 1987 survey of Canadians aged 15-24, conducted by the Canada Youth Foundation, British Columbia youth responded in much the same way as other young Canadians.

When B.C. youth were asked what was important to them, friendship ranked at the top. Being successful, having freedom, and being loved were viewed as very important by 70 per cent of respondents. Over 60 per cent of B.C. youth felt that having a good education was very important. Being popular was least important.

The four values B.C. youth rated as most important were honesty, cleanliness, reliability, and politeness.

. . . and dynamic

Extra-curricular activities

Students are often deeply committed to broad social issues

Students throughout the school system demonstrate initiative in many ways. Students become involved in the production of school annuals, in volunteer community service work, in extra-curricular clubs and sports.

A survey of students who graduated in 1988 indicated that 92 per cent had participated in extra-curricular activities. The activities that the graduates were most likely to have participated in included athletic teams, band, drama, and dance.

All these activities represent the willingness of students to go beyond what is required of them and to use their own initiative to accomplish personal goals.

Commitment to a sport offers intense personal satisfaction . . .

. . . and further strengthens social bonds

Appreciation of fine arts; understanding of cultural heritage

Participation in secondary fine arts courses

From vision, to design, to model

Fine arts courses include music, art, and theatre. As these courses are optional, participation in them is a general indication of student interest.

In 1988/89, enrolment in fine arts courses accounted for 8.6 per cent of all secondary cource enrolment, compared to 8.1 per cent in 1987/88. This slight increase is mainly due to an increase in junior secondary (Grades 8, 9, and 10) participation in fine arts courses, from 9.3 per cent of all course enrolment in 1987/88 to 9.9 per cent in 1988/89.

Senior secondary (Grades 11 and 12) enrolment in fine arts courses has stayed relatively constant over the last few years despite changes to graduation requirements that have reduced

Among other things, music is . . .

. . . concentration. . . .

the opportunity for senior secondary students to enrol in these courses. In 1988/89, enrolment in fine arts courses was 6.8 per cent of senior secondary course enrolment, compared with 6.7 per cent in 1987/88.

Beginning in 1989/90, the Ministry will be able to report the actual number of students who participate in fine arts courses.

. . . and a sound first heard inside

Both production and performance offer rewards

Programs to promote human and social development

The provincial curriculum addresses topics related to an individual's role in the family, society, and the world. Formal instruction includes the appreciation of fine arts, cultural heritage, and Canadian values. Specific courses that help promote the human and social development of students include social studies (geography, history, and western civilization), fine arts courses, and language courses.

Attitudes of Immersion students toward studying French

As the language of one of Canada's founding nations, French is a vital element in Canada's cultural heritage. Students' attitudes toward the study of French are an indicator of their appreciation and understanding of this cultural heritage.

As part of the 1988 French Immersion Assessment, French Immersion students in Grades 7 and 10 were asked about the value of studying French. Approximately 85 per cent of the students agreed that studying French would help them be more at ease with fellow Canadians who speak French, and would allow them to meet a more diverse group of people.

When asked to express an opinion about French Immersion, many students mentioned cultural benefits, educational challenge, and perceived financial benefits.

French Immersion

French Immersion is a program designed mainly for students whose native language is not French. Most districts with a school population of more than 3,000 now offer a Kindergarten to Grade 12 French Immersion program. Students in the Early Immersion program start at Kindergarten or Grade 1, while students in the Late Immersion program enter at Grade 6.

In 1988/89, the French Immersion program enrolled 24,320 students. Eighty-four per cent of these students were enrolled in elementary Immersion. Total enrolment in French Immersion has increased by nearly 13 per cent (2,765 students) since 1987/88.

Student Exchange Programs

Exchange programs offer unique opportunities for students to broaden their understanding of other cultures. The Ministry is directly involved in the co-ordination of a number of these programs, including the Interchange on Canadian Studies and the German Exchange program. The Pacific Rim Initiatives Program (discussed in detail on page 78) also has a major exchange component. Student exchange programs are offered through school districts and through both public and independent schools.

Interchange on Canadian Studies

Approximately 400 Grade 11 students, from all provinces and territories, attend the five-day Interchange on Canadian Studies conference to exchange ideas and hear speakers on topics of national concern.

German Exchange Program

The German Exchange program is a six-month exchange with students from the Federal Republic of Germany. The 1988/89 program involved 50 students from 13 districts representing 25 public schools and one independent school.

Physical health and well-being

At present, there are no province-wide assessments of the physical health of students. However, there are indicators of student attitudes, knowledge, and activities which relate to some of the most important health concerns of the decade. As well, a recent study of students who graduated in 1988 provides some information about the participation of these students in athletic activities.

Student knowledge about AIDS

A great deal of attention has been focused on the issue of AIDS. Many experts feel that since AIDS is preventable, the more knowledge students have about its cause and methods of transmission, the less likely they will be to contract it. A 1988 assessment of the Family Life Education Program showed that more than 80 per cent of students in Grades 7, 9, and 11 had a good understanding of how AIDS is transmitted and how it can be prevented.

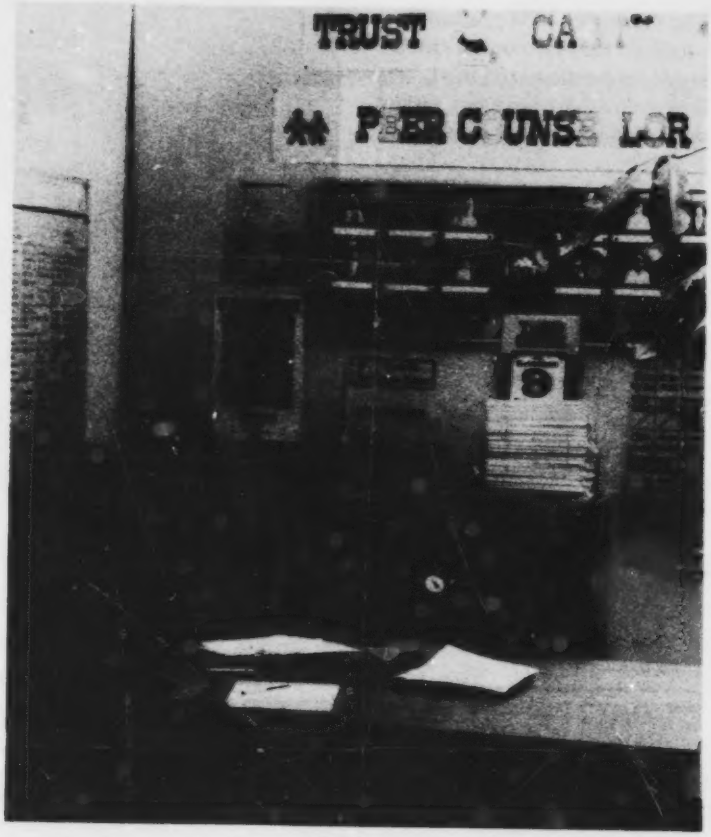
Understanding a problem is the first step towards solving it

Drug and alcohol use

Another major concern of society is drug and alcohol use. In 1987, students in B.C.'s public high schools (Grades 8 through 12)

were surveyed on how frequently they smoke tobacco, drink alcohol, and use illicit drugs. By the end of Grade 12, most students had experimented with drug and alcohol use. Alcohol was the substance most frequently used by students, followed by cannabis (marijuana) and tobacco.

Although alcohol seems to be used by a majority of high school students, and other drugs by a significant minority, there is evidence that students are aware of the problem of drug abuse and are taking steps to combat it. For example, participation in drinking and driving awareness programs is increasing every year, and 'dry' (no alcohol) graduation celebrations are becoming acceptable alternatives to traditional graduation parties.



When help is needed, others are often there to assist

Student participation in athletic activities

The survey of 1988 graduates reported that two out of three students participated in at least one athletic activity either sometimes or often. Of the students who participate in an athletic activity, almost half participate often.

The kinds of activities these students were involved in include soccer, field hockey, rugby, volleyball, and basketball, as well as many sports which involve external facilities (curling and tennis, for example) or which can be played at an intramural level.

Sharing sports activities enriches both students and teachers

Promoting Physical Health and Well-Being

A number of programs promote the health and well-being of learners. These include physical education courses such as family life courses (including AIDS prevention instruction), and counselling programs. In addition, schools encourage various kinds of individual and team sports through the provision of facilities and the time and energy of teachers.

Other aspects of the promotion of physical health and well-being include:

- workshops to provide educators with information on sexual abuse;
- publication and distribution to school districts of a draft version of the *Child Abuse Prevention Education Resource Guide;* and
- provision of medical services for students.

Social responsibility, tolerance, respect for ideas and beliefs of others

It is often within the less formal structures of extra-curricular activities and events that students develop the social skills needed for competition, fairness, and co-operation. Games, clubs, and other activities at noon hour and after school help promote the social development of students. Students are also involved in their own governance through student councils in virtually all secondary schools. This experience teaches students a great deal about social organization and the representation of other people's interests.

A friend is someone you can lean on

Helping someone up . . .

. . . or learning to pull together

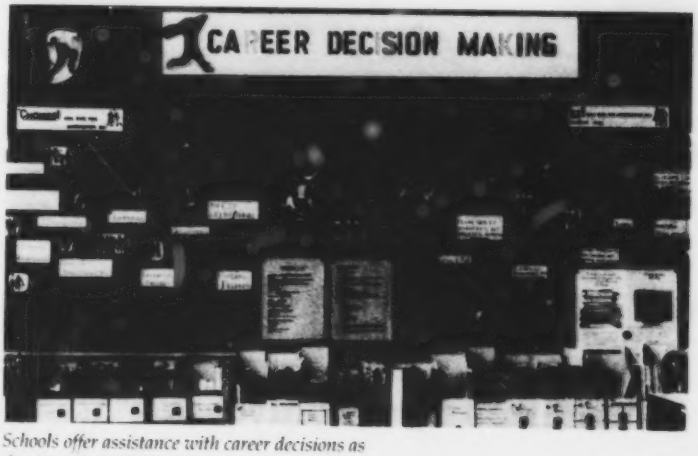
CAREER DEVELOPMENT

Making decisions is an integral part of the learning process

"To prepare students to attain their career and occupational objectives; to assist in the development of effective work habits and the flexibility to deal with change in the workplace."

During the first few years of school, a major focus of the curriculum is the development of attitudes and habits that the learner will need to be successful in the workplace. In particular, the school system is concerned with the development of a sense of responsibility, good work habits, motivation, and the self-confidence to set and achieve goals.

As the student moves towards the senior years, the focus begins to shift to the development of specific skills needed for post-Grade 12 activity. Students are provided with counselling to help them decide on career objectives and to help them choose programs that are most appropriate to their career plans.



Schools offer assistance with career decisions as the time of school leaving nears

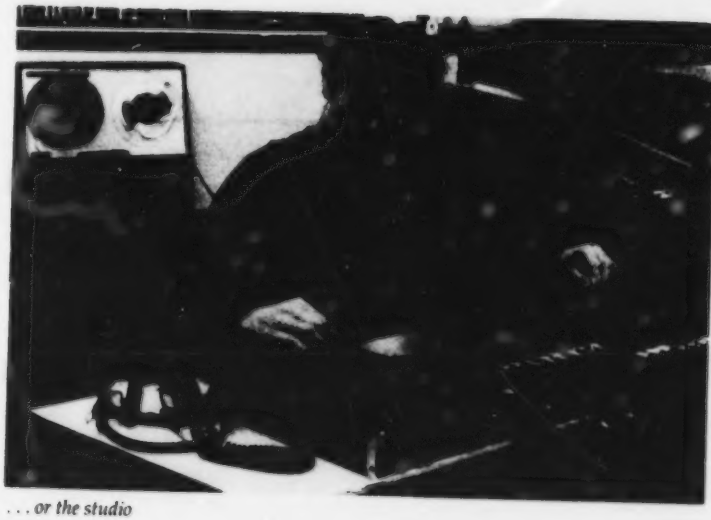
Students continue to receive counselling through their last two years of high school to ensure that the programs they are taking will provide them with the background they need to proceed with further education or to enter the work force following graduation.

Opportunities for students may be found in the lab, . . .

During these years, students are provided with a range of programs to develop specific career skills. Students are able to combine regular secondary school experiences with career studies in selected career areas. This allows students to find out first-hand what actual work experiences will be like, and to begin to develop work skills in specific areas.

. . . or the kitchen, . . .

. . . or the shop, . . .



. . . or the studio

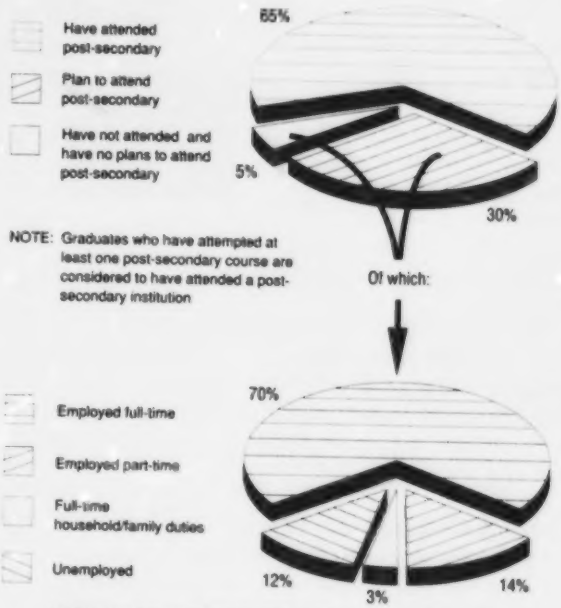
What students want to do after graduation

As part of the 1988 Reading Assessment, 72 per cent of Grade 10 students indicated that after leaving high school they planned to continue in some form of post-secondary education (44 per cent specified university). Only six per cent said they would look for a permanent job and the remaining 22 per cent did not have specific plans.

A survey of Grade 12 graduates indicated that 65 per cent of students started at least one course in a post-secondary institution. Thirty per cent did not continue with post-secondary education immediately, but said they planned to continue in the future. The remaining five percent said they had no plans to continue. (Grade 12 students who did not graduate were not part of the survey).

Of the 35 per cent who did not continue with post-secondary education, 70 per cent were employed full time, 14 per cent were employed part time, 12 per cent were unemployed, and three per cent had family responsibilities and were not part of the work force.

What do Graduates do after secondary school graduation?



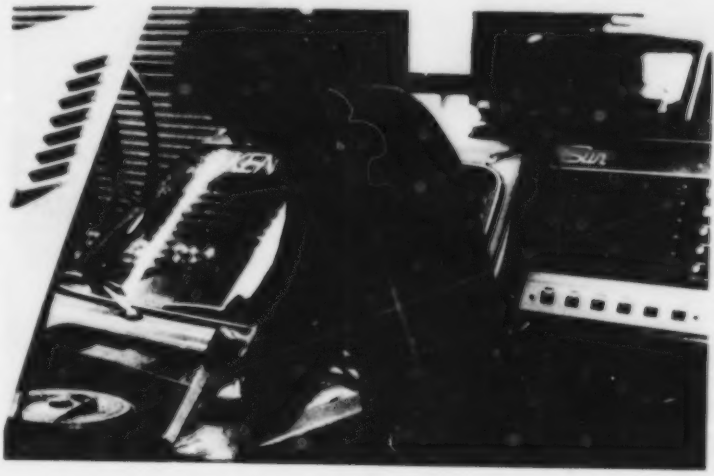
NOTE: Numbers have been rounded, and do not necessarily add to to 100%.
SOURCE: Program Evaluation and Research Branch

The impact of education on employment and earnings

Education improves an individual's job prospects and earning potential. Figures show that high-school graduates are much more likely to be working at any given time than people who have not graduated. Furthermore, the more education a person has, the higher the salary that person is likely to receive.

Programs for Career Development

While schooling in general contributes to career development, certain programs are specifically designed to combine the regular secondary school program with studies in a selected career area. The most important of these are career preparation programs, work study/work experience programs, and programs for mildly or moderately handicapped students. Secondary schools also provide career counselling to assist students in setting occupational goals.

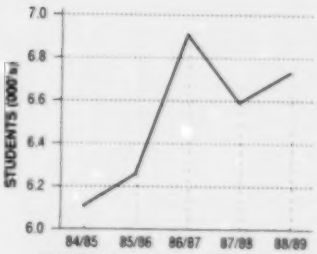


Career Preparation Programs

Career preparation programs are designed to provide students in Grades 11 and 12 with the opportunity to combine the regular program with career studies. All students in these programs must have good standing in the core subjects of English, social studies, mathematics, and science.

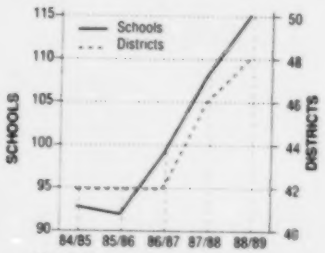
School boards generally develop programs which will improve the student's chance of local employment. A wide range of programs may be developed, including such fields as business education, children's services, and mechanics.

Career Preparation Program enrolment, 1984/85 to 1988/89



SOURCE: Data Systems Administration Branch

During 1988/89, over half (115) of the schools with senior secondary grades, representing 48 of the 75 districts, offered career preparation programs. About 6,700 (or 10 per cent) of Grade 11 and 12 students were enrolled in these programs.



SOURCE: Data Systems Administration Branch

Schools and districts offering Career Preparation Program, 1984/85 to 1988/89

Work Study/Work Experience Program

The purpose of the work study/work experience program is to help students explore occupations, to maintain students' interest in school, and to help students develop good working habits.

Since 1974/75, the program of work study/work experience has grown from 210 schools in 43 districts enrolling 7,622 students to 304 schools in 74 districts enrolling 19,851 students.

Special Needs Programs

Funding for job training for mentally handicapped students is provided to school districts by the Ministry of Education. The skills and work experience students gain on a job site increase their chances of becoming more independent after leaving the school system. School districts reported that 1,362 learners received job training in 1988/89.

Career Counselling

All secondary schools provide counselling in order to help students decide on a career, to provide information about job opportunities, and to point out areas of study which will help students achieve their objectives.

General Educational Development

The General Educational Development (GED) Testing Program provides assistance in pursuing educational and career goals to adults age 19 and over who have not graduated from secondary school. Successful candidates are awarded a British Columbia Secondary School Equivalency Certificate.

In 1988, 5,703 adults participated in the GED program, a 30 per cent increase since 1987. Approximately 80 per cent of the adults participating in the program successfully complete the tests.

ATTRIBUTES OF THE SCHOOL SYSTEM

In addition to the three goals of education, the Ministry of Education measures the success of the school system in terms of how fully it encompasses five attributes: accessibility, relevance, quality, equity, and accountability.

ACCESSIBILITY

"A variety of programs is available in the province to meet the full range of student needs."

The concept of accessibility means more than simple geographical access. It means that programs for student development should be available to all eligible learners, regardless of geographical location, physical and mental handicaps, gender or ethnic status. Programs should be available to accommodate learners whose mother tongue is not English. As well, the system should provide alternatives for people who do not want to be educated through the public school system.

The school system has done a good job of making core programs (programs required for graduation) available regardless of location. It is relatively easy for any learner in the province, either at a school or through distance learning, to take courses leading to graduation. Several programs are in place to increase the number of courses available in small and/or remote school districts, and it is expected that the range of courses available in these districts will increase.

Availability of courses through the public school system

The public school system makes courses available to learners through a variety of means. Courses are provided through nearly 1,600 public schools throughout the province, through distance education, and through special programs such as those for learners who cannot be integrated into public schools or who are in youth detention centres.

Public schools

Although all schools provide the core courses required for graduation, schools in more populated areas provide the widest range of elective courses.

Courses in small/remote schools

A project organized in 1987/88 to help small secondary schools offer a wider range of courses was expanded in 1988/89 to include small elementary schools. The use of video technology and computer software provided alternative approaches in science courses at the senior secondary level.

Approximately 200 elementary and 100 secondary schools in 27 small/remote districts participated in this project. These districts each enrolled 2,000 or fewer students.

Correspondence and distance learning

A wide range of correspondence education courses, from primary level to Grade 12, is available to B.C. students year-round. Through distance learning, students can graduate, meet post-secondary entrance requirements, and obtain the background or required training for specific jobs.

Distance learning provides courses to students who do not have access to public schools and increases the range of courses available to students enrolled in public schools. For example, a student might take a correspondence course where a school course is unavailable because of timetable conflicts.

In order to bring distance learning services closer to elementary and secondary students, four regional correspondence schools, located in Fort St. John, Prince George, Terrace, and Saanich, have opened in the last few years.

Regional correspondence schools bring programs closer to learners

Learners have increasingly taken advantage of the opportunities provided by distance education. Secondary enrolment in correspondence courses is up by two per cent from last year to 20,553 students, and elementary enrolment is up by 13 per cent to 1,125 pupils.

Of learners who enrolled in secondary courses in September 1987, at the end of two years — by August 31, 1989 — 41 per cent had completed their studies, 55 per cent either returned to school or withdrew, and four per cent were continuing.

Over a one year period, from September 1988 to August 31, 1989, 27 per cent completed, 42 per cent either returned to school or withdrew, and 31 per cent continued with their studies.

Access for learners with disabilities

A total of 67,646 students were enrolled in programs for special needs learners in 1988/89, an 8.7 per cent increase over the previous year. Among individual school districts, the proportion of children enrolled in programs for learners with handicaps ranged from 3.7 per cent to 5.3 per cent, with a provincial average of 4.2 per cent.

There is a general consensus that most students with disabilities benefit from education in regular schools. Consequently, the Ministry has taken a number of steps to increase the integration of these students into the school system.

- ✔ Grants are given to societies that provide language stimulation experience and training to preschool children who are deaf or blind. These children receive a head start on their education and are less likely to fall behind when they enter school.
- ✔ Under the CHANCE program, the Ministry of Education funds personal care attendants for severely handicapped students. Having a personal attendant increases the opportunity for a student to be taught in a regular classroom. More than 1,200 students were provided with personal care support through this program.
- ✔ In 1988/89, financial support for students who have more than one severe handicap was increased.
- ✔ In addition to the fact that all new school construction and renovations address accessibility, $1.1 million in capital funding was specifically approved for 1988/89 for

A handicap is a challenge, not a barrier

Physical accessibility to our schools: one of the issues being addressed

school renovations to provide access for the handicapped. This is a high-priority program that will make all school buildings accessible to the handicapped in the near future.

Personal care attendants ease the process of integration into a regular classroom

In addition to the goal of integrating handicapped students, various services are provided to meet their particular needs in remote areas. The Ministries of Health and Education co-operated to develop a system which would provide speech/language services to children in 10 school districts in the more remote regions of the province.

SET-BC centres offer assistance to the handicapped

The Ministry of Education has also established four special education technology centres (SET B.C.). These centres help determine ways technology can be used to assist physically handicapped students in the classroom, loan the appropriate equipment to schools, help ensure that individual educational plans incorporate the use of appropriate technology, and provide training for school staff and parents. Three more special education technology centres are scheduled to be in place by 1991.

Special needs programs in independent schools

More than 60 per cent of the 224 funded independent schools offer some special needs programs. There are six funded independent schools dedicated exclusively to learners with special needs.

Meeting the Individual Needs of Students with Handicaps.

Nearly a decade ago, individual educational plans (IEPs) were introduced to address the needs of students with mental and physical handicaps. These plans allow special education teachers to tailor programs to individual student needs. Students are assessed to determine their strengths and weaknesses. Goals, and a time-frame for reaching them, are then set. At regular points, student progress is reviewed with parents and adjustments to the program are made as required.

Most districts now develop IEPs for students with handicaps. Comparative studies carried out in some districts have shown that students with IEPs accomplish as much or more than students without IEPs.

Access for gifted learners

In order to develop the full potential of gifted learners, their programs must be modified and expanded.

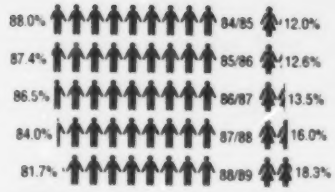
In 1989, funds were made available to school districts to enable approximately 13,000 gifted learners to participate in programs designed to meet their special needs. All 75 school districts reported programs in place, ranging from extensions of curriculum within the framework of the regular classroom to Advanced Placement and International Baccalaureate programs.

Access based on gender

Although 49 per cent of the September 1988 Grade 11 and 12 public school population was female, enrolment patterns in specific subjects do not always reflect that percentage. Female participation in the traditionally male-dominated subjects of mathematics (47 per cent) and science (chemistry - 48 per cent, biology - 59 per cent) reflects female school population percentages. In physics, however, only 33 per cent of the enrolments were female.

The laboratory holds exciting challenges for these students . . .

In 1988/89, only 14 per cent of secondary science educators and 18 per cent of secondary mathematics educators were female. It appears that the lack of female role models does not deter young women from enrolling in these subjects. It is possible that they are less intimidated by subjects traditionally considered 'masculine' and that their awareness of career opportunities in these fields is growing.

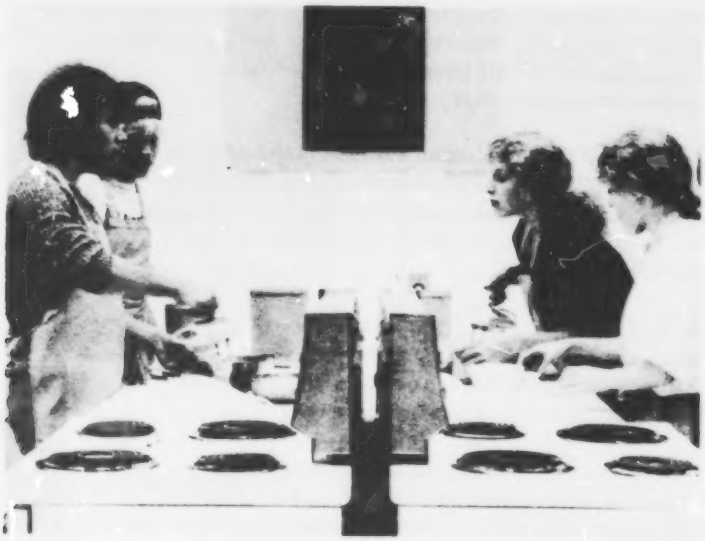


SOURCE: Data Systems Administration Branch

Principals and vice-principals by gender, 1984/85 - 1988/89

Recent results of the 1988 International Mathematics and Science Assessment indicate that there was no difference between the performance of males and females in mathematics, but that in science males consistently outperformed females.

The results of the 1988 Reading and Written Expression Assessment indicated that females were able to read significantly better than their male counterparts and were able to write somewhat better.



. . . while this group shares new skills

Access for Francophone learners

The British Columbia school system offers instruction in French to students whose mother tongue is French. Programme Cadre de Français is designed for these students.

In 1988/89, 1,916 students enrolled in Programme Cadre de Français, over 84 per cent in the elementary program.

Access for native Indian learners

The education system attempts to ensure that native Indian students have equal access to the means of achieving their intellectual, social and human, and career goals, and that all students have a better awareness of native culture. The system will be responsible for the enhancement and development of the native language and culture curriculum, and for responding to recommendations made by the B.C.-based First Nations Education Secretariat (comprising native Indian leaders) created in 1988.

Of the 35,000 native Indian learners in the province, about 5,000 attend band schools, and 30,000 attend public schools. Band schools are run under the direct authority of the band, and in most cases follow provincial curriculum.

One of the objectives of the Ministry for the next year is to ensure that the assessment procedures for regular public schools are used to evaluate the quality of education that native Indian learners receive.

Grants have been provided to native bands for the preservation and enhancement of native Indian languages and culture. Projects include native curriculum development, native language development, and native language teacher training.

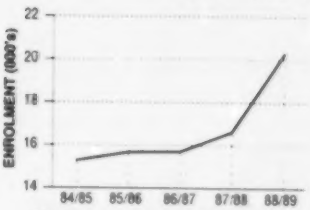
Native Indian students add one more facet to the multi-cultural make-up of our classrooms

Access for learners from minority cultural groups

A growing number of non-English speaking immigrants or refugees entering the school system has created a demand for English as a Second Language (ESL) support. Enrolment in the ESL program has increased by 3,665 students (22 per cent) since 1987/88. Of the 20,249 ESL students enrolled in the program in 1988/89, approximately 85 per cent were enrolled in lower mainland schools.

English language skills will be necessary for her to share in the learning experience.

Headcount enrolment in ESL courses, 1984/85 - 1988/89



SOURCE: Data Systems Administration Branch

Programs for adult learners

In the 1988/89 school year, 3,005 adult students aged 19 or over were enrolled in 72 districts and usually participated in classroom activity with younger learners. This is a 25 per cent increase over the 1987/88 enrolment of 2,392 adult education students. In addition, a further 11,857 students in 21 school districts participated in educational programs developed specifically to enable adult learners to complete the Minister's graduation requirements, or to upgrade their academic standing.

Adults can also register throughout the year for secondary level correspondence courses. During the 1988/89 school year, adult correspondence course enrolment was 3,060, compared with 3,278 in 1987/88.

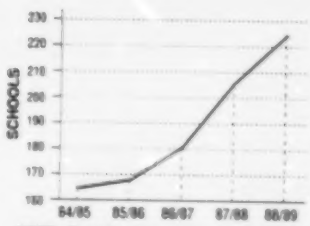
Accessibility has been increased by the removal of fees charged for adult education courses leading to high school completion or academic upgrading.

Alternatives to the public school system

Funded independent schools

In 1988/89, most of the independent schools in British Columbia were classified as either Group 1 or Group 2. Funded independent schools and those schools that applied for voluntary accreditation were subject to the provisions of the *School Support (Independent) Act*.

In order to obtain Group 1 classification, schools had to use an adequate facility and were not allowed to promote or foster doctrines of racial or ethnic superiority, religious intolerance or persecution, or social change through violent action. These schools received per pupil grants equal to 10 per cent of the per pupil operating costs in the public school district in which the independent school was located.



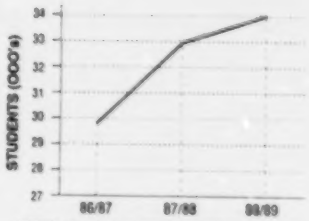
NOTE: Funded independent schools include Group 1 and Group 2 schools
SOURCE: Independent Schools Branch

Number of independent schools, 1984/85 - 1988/89

In order to obtain Group 2 classification, schools had to meet the Group 1 requirements and in addition, offer a curriculum that met the provincial curriculum goals and the instructional time requirements in specific subject areas as determined by the Minister of Education. As well, the schools participated in the provincial assessment and examination programs and were subject to regular evaluation and monitoring. These schools received per pupil grants equal to 35 per cent of the per pupil operating costs in the public school district in which the independent school was located.

Funded independent schools were found in most major communities and enrolled approximately six per cent of the province's students. Independent school enrolment has undergone a steady increase over the last ten years. In 1988/89, student enrolment in funded independent schools was 33,958.

Headcount enrolment in funded independent schools 1984/85 - 1988/89



NOTE: Funded independent schools include Group 1 and Group 2 schools
SOURCE: Independent Schools Branch

The provincial goals for student development apply to both public and funded Group 2 independent schools, although differences in emphasis may exist.

Other alternatives

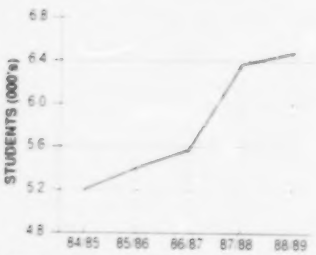
A small percentage of B.C. students was educated through non-funded independent schools, home schooling, or band schools (schools completely under the jurisdiction of native Indian bands). It is estimated that these educational alternatives meet the needs of more than 5,000 students.

Financial assistance: access to advanced education and training

Scholarships

The Ministry of Education provides scholarships to students in public schools or funded independent schools who do well in provincial scholarship examinations. The 20 highest-ranking candidates each receive $2,000, while the remaining qualifying candidates each receive $1,000. The scholarship examinations cover the regular curriculum though they focus on higher-order thinking skills.

Student participation in scholarship examinations 1984/85 - 1988/89



NOTE: Numbers include public school students and a small number of Group 2 independent school students.
SOURCE: Data Systems Administration Branch

In 1988/89, scholarship examinations were written by 6,485 Grade 12 students, or 18 per cent of the Grade 12 population. The number of students writing scholarship examinations has increased steadily over the last five years. Of the students who wrote scholarships in 1988/89, 1,072 received awards.

In addition to provincial scholarships, the Ministry also provides district awards and scholarships. These awards recognize students who are identified by their school district as excelling in programs emphasizing vocational courses, technology, or the visual or performing arts. In 1988/89, 384 students received district awards.

Passport to Education Program

The Passport to Education program was designed both to recognize current student achievement and to promote greater student achievement in the future.

Students in Grades 9-12 accumulate financial credits which may be used to further their education in post-secondary institutions or training programs recognized by the Ministry of Advanced Education and Job Training.

At the end of each school year, schools award credits to the top 30 per cent of students in B.C. public secondary schools and Group 2 independent schools.

The first awards under this new program were issued during the 1988/89 school year. A total of 6,394 students received $275 each ($1.8 million). More than half of these students are attending universities (3,542); and another one-third are at colleges (2,702).

RELEVANCE

"Programs are current, and relevant to the needs of the learner."

The friendly face of computer assistance

Educational programs must give learners opportunities to gain knowledge, skills, and attitudes appropriate for today and for the future. To achieve this, educational programs must be seen by learners as being relevant to their needs. When programs are relevant, learners tend to remain in school.

In 1988/89, the Ministry of Education began a revision process in order to improve the currency and relevance of instructional programs. Its aim is to produce programs which will hold the interest of students and give them the best preparation for the future.

The tendency for learners to remain in school

An effective school system will attempt to maintain or increase:

- ✔ the portion of the population graduating;
- ✔ the portion of the 18-year-old population which has achieved high school graduation; and
- ✔ a student's likelihood of graduating.

The success of the school system in keeping students in the system until they graduate is a strong indication of its relevanc to students. However, a student's decision to stay in school is also affected by parental choice, mandatory ages of attendance programs offered by the schools, and by economic, social, and community conditions beyond the control of the school system

The system strives to create an environment where students such as these will choose to stay until graduation

Furthermore, during 1988/8 there was no way to keep tra of the movement of students For example, if a student withdrew from the system, there was no information on whether the student left the province to continue his/her education elsewhere, transferred to an independent school, chose an alternative form of education such as home schooling, or dropped out completely. There was also no method for determining whether students who dropped out returned to school at a later time.

A new data collection system, being introduced in the 1989/90 school year, with full implementation expected in 1990 91, will provide more complete information about the tendency for learners to remain in school.

Some students may remain in school to learn job-related skills

Despite the lack of data specific to the B.C. school system, general research about students' learning styles suggests that many students who leave school may not be dropping out permanently but are choosing instead to:

- ✔ leave the school system and return at a later time to complete graduation requirements; or
- ✔ find alternative methods of achieving graduation or its equivalent through adult education programs, GED equivalency programs, correspondence education, or distance education.

How many learners withdraw from school?

Secondary school withdrawal rates are one indicator of how students feel about the relevance of their school experiences. Students who do not find school relevant may choose to withdraw. The withdrawal rate is determined by dividing the number of students who leave the school system during the year by the number of students who were enrolled in September.

School provides a social focal point for many students

In 1988/89, the elementary withdrawal rate was 1.0 per cent and the secondary withdrawal rate was 7.4 per cent. The secondary rate has remained at about 7 per cent for the last decade.

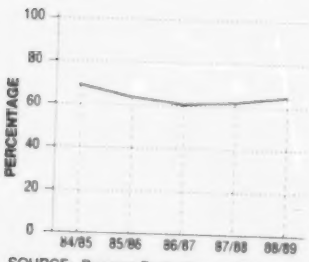
The withdrawal rate tends to be slightly higher in rural districts than in urban districts.

Students aged seven through 15 must attend school. Therefore, elementary withdrawals are likely to be the result of families moving out of the

province or parents opting to educate their children through home schooling. If families with students at the secondary level are no more or less likely to move out of the province than are families with students at the elementary level, an overall 'drop out' rate may be estimated by subtracting the elementary withdrawal rate from the secondary withdrawal rate. In 1988/89, this rate was approximately six per cent.

How likely is a secondary student to graduate?

Likelihood of a Grade 8 student to graduate, 1984/85 - 1988/89



SOURCE: Program Evaluation and Research Branch; Ministry of Finance and Corporate Relations (Central Statistics Bureau)

One way to estimate the likelihood that a student who enters secondary school will graduate within four years of entering Grade 8 is calculated by dividing the number of students graduating in a given year by the total Grade 8 enrolment four years earlier. The number of students who graduated in 1988/89 represented 64 per cent of the students who entered Grade 8 in 1984/85. Other students may take longer to complete graduation requirements.

What portion of senior year learners graduate?

Students graduate when they are judged to have gained intellectual, human and social, and career-related skills to a degree which enables them to participate responsibly in society. Graduation also reflects a student's ability to analyze critically, to reason and think independently, and to acquire basic learning skills and bodies of knowledge. In order to graduate, learners must demonstrate how well they have gained these abilities.

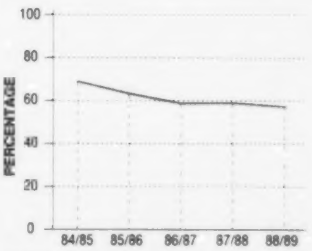
The graduation rate is determined by dividing the number of students graduating by the number of students enrolled in Grade 12. Of the 35,739 students enrolled in Grade 12 in public schools in September 1988, 25,176 graduated. This represents a graduation rate of 70.4 per cent, a rate which has been constant over the last four years. This rate may exclude graduates whose certificates were awarded by school districts but not reported to the Ministry (which awards the majority of high school graduation certificates).

It should be noted that some students enrolled in a public school in Grade 12 do not take either the right number or the right combination of courses to graduate in that year. It is estimated that 90 per cent of the students whose 1988/89 program of study enabled them to graduate if they were successful in completing that program did graduate during the year.

What portion of 18 year olds in B.C. have graduated?

Having a high percentage of citizens who exhibit a level of education which will prepare them well for the future is desirable, although this percentage can be affected by conditions extraneous to schools. In 1989, an estimated 57 per cent of the 18 year olds in British Columbia received a high school graduation certificate through the public school system. The Ministry is aware that an additional 1,619 students (4%) received a graduation certificate through independent schools.

Public school graduates as a percentage of the 18 year old population, 1984/85 - 1988/89



SOURCE: Program Evaluation and Research Branch; Central Statistics Bureau, Ministry of Finance and Corporate Relations

Curriculum changes

During the 1988/89 school year, there was extensive revision of the provincial curriculum, including Learning for Living, Language Arts, English, Social Studies and Mathematics. These revised courses will become part of the new Primary, Intermediate and Graduation Programs being developed.

In summary, the student skills to be improved through the revisions of these curricula include:

- ✔ content knowledge of literature, geography, history, human relationships, health, and mathematics;
- ✔ communications skills of speaking, listening, writing, reading, viewing, and representing;
- ✔ inquiry skills of acquiring, integrating, organizing, and using information;
- ✔ decision-making;
- ✔ cultural development; and
- ✔ lifelong learning.

The effectiveness of the changes in achieving these improvements will be assessed and evaluated through the Ministry's ongoing learning assessment program and through the evaluation efforts of districts and schools. Effectiveness is also assessed through the Grade 12 Provincial Examination program.

Curriculum Development and Revision

The provincial curriculum is primarily the responsibility of the Ministry of Education which carries out curriculum development and revision with the assistance of educators. Districts may also offer locally developed courses to help ensure that students receive an education relevant to the specific needs of their communities.

Until 1988/89, curriculum and program revision generally took several years to complete. The process relied on the work of committees of educators who met several times a year. To keep pace with the rapid rate of change in society, the Ministry has adopted a development process which involves a more concentrated effort by teams of educators over a much shorter period of time. For example, the new draft Primary Program was produced in a four month period. Drafts of the new Intermediate and Graduation programs will be produced in a similar manner in the 1989/90 school year.

The Ministry has also begun work on a number of other initiatives aimed at providing learners with relevant school experiences. A new curriculum in health and guidance (Learning for Living) will provide Primary and Intermediate learners with the knowledge, skills, and attitudes necessary for a healthy lifestyle. Pacific Rim concepts in history, geography, economics, and social studies will give learners a better understanding of the impact this region has on British Columbian and global economics. All curriculum revision efforts include a focus on critical thinking and problem-solving.

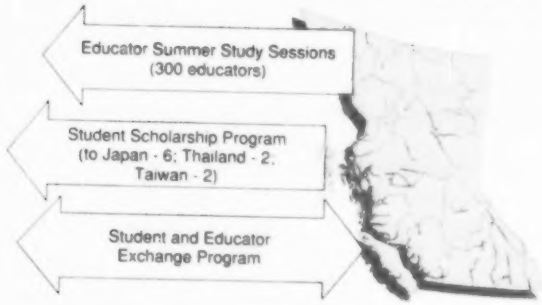
The Ministry recognizes the need to provide up-to-date teaching and learning resources in order to give students experience in dealing with today's technology. For example, science and technology courses are being developed based on a modular approach which divides a course into units that can be easily modified or replaced as technological concepts change. These courses make extensive use of video and computer technology to provide learners with relevant experiences.

Students with special needs may require considerable alterations to curriculum in order to best enable them to achieve their potential. Educators experienced with students in special programs participate in curriculum development to ensure that gifted students are challenged and that appropriate modifications are suggested for handicapped students.

Pacific Rim Education Initiatives

The Pacific Rim nations are a rapidly growing economic and social presence. To help B.C.'s school system maintain a staff that is aware of, and curriculum that is relevant to this development, the government initiated several activities under the Pacific Rim Education Initiatives. These include the Pacific Rim Scholarship Program, educator study sessions and exchanges, student study tours in Asian Pacific countries, language courses in Japanese and Mandarin Chinese, the Hong Kong Student Selection Office, and curriculum development.

Pacific Rim Programs, 1988/89



A total of $ 3.9 million was approved for Pacific Rim Education Initiatives in 1988/89. Pacific Rim activities now occur in 65 school districts and 46 Group 2 independent schools as a result of the program.

Pacific Rim Scholarship Program

The Pacific Rim Scholarship Program provides Grade 12 graduates with funds to study for one academic year in an Asian Pacific country. The recipients will be studying in Japan, Thailand, and Taiwan in 1989/90, and will be placed in educational, language and culture programs in their host countries.

In 1988/89, 19 graduates were awarded scholarships up to a value of $20,000. The selection criteria included academic excellence and interests, personal attributes, personal goals, and potential contributions to the province, country, and world.

Student study tours

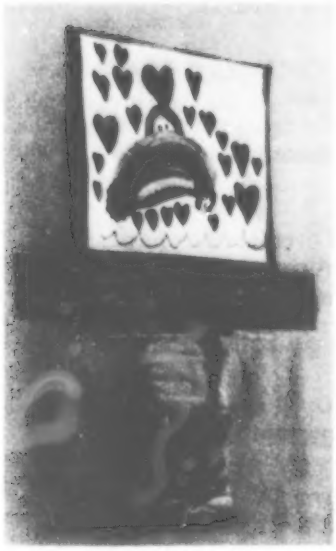
Approximately 300 students took part in Pacific Rim Study Tours during the 1988/89 school year. Activities involved school visits, home stays, and cultural and historical excursions. The tours were typically 2-3 weeks long, though some long-term exchanges also took place.

Japanese and Mandarin Chinese language program

In 1988/89, 946 Grade 9-12 students enrolled in Japanese and 335 enrolled in Chinese Mandarin language courses. Enrolments in these courses are flourishing and are expected to double in the coming school year.

QUALITY

"Professional teaching and administration are of high quality."



Excellence and commitment bring their own rewards

The quality of a school system can be judged in terms of student achievements. The performance of British Columbia students in local and national assessments, detailed in other sections of this report, is impressive.

A second perspective on quality is how students and the public view the education system. In general, people feel that a high calibre of teachers and administrators is the key to a quality education system. Most people in B.C. give the province's schools a passing grade or higher. However, almost half of the general public gave the schools a "C."

A third way of looking at the quality of the school system is through the accreditation process that is intended to ensure that teachers and administrators exhibit a high level of professionalism. The key findings of this process were that administrators managed the schools well — they allocated resources effectively and showed fiscal responsibility — but that better communications with the community were needed and that planning procedures should be improved. The schools were found to provide a good learning atmosphere, and the staff was of high quality.

Students' opinions of the quality of their education

A survey of Grade 12 students who graduated from the public school system in 1987/88 showed that almost all were satisfied with their overall education. Ninety per cent of the students were satisfied with the quality of teaching, 85 per cent with their intellectual development, 82 per cent with their human and social development, and 71 per cent with their career development.

How the general public views the education system

The people of B.C. are clear about what they think are the most important elements in a quality system. Surveys indicate that more than half (55 per cent) think the major factor affecting the quality of education is the "competence and dedication of teachers".

The public is about evenly divided over whether the education system is getting better or worse. A quarter think it has become worse over the last five years and a quarter think it has improved. Almost half of those surveyed think it has stayed the same.

More than 80 per cent of the people give the province's schools a passing grade or higher.

Local elementary schools are given an "A" by six per cent of the general public, a "B" by 36 per cent, and a "C" by 43 per cent. Eleven per cent would give the schools a "D" or "Fail".

Local secondary schools are given similar marks. Five per cent of the people give them an "A", 25 per cent a "B", 44 per cent a "C", and 20 per cent a "D" or "Fail."

Monitoring and Assessment of Public Schools

One way of monitoring how well schools are meeting the needs of students is through accreditation. Two teams of educators — one from within the school and one from outside the school — analyze student performance and observe classroom activities in order to evaluate the school's effectiveness.

In 1988/89, secondary accreditation changed from a system that focused on administrative procedures to one concerned with student performance.

A new elementary accreditation process was tested in 10 pilot schools in British Columbia, making the province the first jurisdiction in North America with a mechanism for assessing the effectiveness of elementary schools and reporting the results to the community.

Both new processes emphasize the need to identify and address community attitudes about the performance and activities of the schools.

Monitoring and Assessment of Independent Schools

Group 2 independent schools are evaluated by the Ministry of Education every four years and are visited by a Ministry official every two years to see if any significant changes have taken place.

Group 1 independent schools are evaluated when they first apply for their Group 1 classification and are visited by a Ministry official every two years.

The quality of teaching and administration

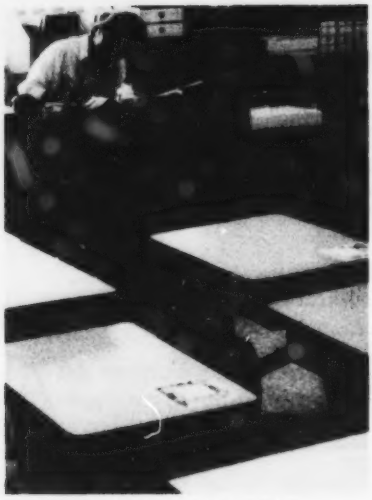
The following summary is based on a sample of secondary accreditation reports involving twenty schools in seventeen districts. This is approximately half of the schools that underwent accreditation in 1988/89.

An evaluation of administration and teaching strengths

School administrators were found to be effective in:

- fulfilling responsibilities required of them by the *School Act*;
- providing appropriate leadership;
- having efficient office management procedures and operating according to the principles of good fiscal management;
- using a variety of strategies to assist the different learning needs of students;
- managing teaching staff; and
- assigning teachers appropriately.

Long after their official responsibilities have ended for the day, administrators as well as teachers can be found offering direction and guidance in student activities



For all teachers, there are duties and responsibilities after the class has gone for the day

School staff exhibited:

- competence, dedication, and versatility;
- professional ethics;
- a professional standard of care; and
- relationships with students modelled on those of a kind and judicious parent.

In general:

- the atmosphere of the schools was conducive to learning;
- students were friendly, industrious, and curious; and
- communities were satisfied with their schools and supported them.

Areas identified as needing improvement were:

- communication within schools, between schools and districts, and between schools and their communities;
- decision-making and planning for school improvement;
- development of a greater learner focus in the schools;
- implementation of professional development plans in schools;
- appropriate provision of facilities; and
- safety precautions.

For this band teacher, as for many other teachers, practices and performances will often take place after official school hours

Setting standards for teachers

Minimum standards of education and training for teachers in the public school system are set by the College of Teachers. Currently, three years of post-secondary education is mandatory for public school teachers. All teachers in Group 2 independent schools must be certified.

The College of Teachers

The College of Teachers defines academic and professional qualifications for teacher certification. The College also investigates allegations of professional misconduct or unethical behavior and, if necessary, disciplines College members.

School superintendents, assistant superintendents, public school teachers and administrative officers (vice-principals, principals, and directors of instruction) are required to be College members.

In 1988/89, the College issued 1,887 teaching certificates. During that same period, six members had their certificates of qualification and their memberships in the College cancelled.

In-service training and professional development

Educator Exchange Programs

International and inter-provincial educator exchange programs, which the Ministry co-ordinates and administers, continued to provide excellent professional development opportunities for provincial educators. During the 1988/89 school year, 31 educators were placed in the United Kingdom, 38 in Australia, one in the United States, two in West Germany, one in Japan, and nine in other Canadian provinces. Pilot programs are being developed for more educator exchanges to various Asian Pacific Rim countries.

Curriculum Implementation

Orientation activities for new curriculum usually take place just prior to and during the year in which a new or revised curriculum is introduced. "Summer institutes" are co-sponsored by the Ministry and one of the B.C. universities. Where appropriate, these programs are given regionally.

During the first year of implementation, one-day workshops are offered at zone conferences co-sponsored by the Ministry and the school districts.

EQUITY

"Resources are allocated fairly."

A fair system is one which provides equal opportunities for all students to fulfill their potential. Such a system will account for differences between districts and for the different needs of individual learners.

Equal spending

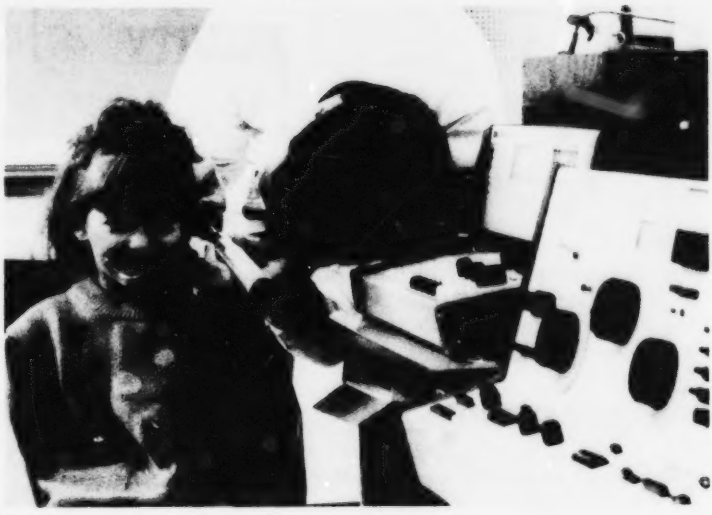
The amount of money spent per student in each district for operating purposes, adjusted for costs that are unique to that district (e.g., extra transportation costs, additional requirements for students with special needs), is a general measure of how fairly financial resources for student opportunities are being allocated.

Among school districts in 1988/89, there was a difference of $5,000 between the lowest and highest per pupil costs. When unique district costs were eliminated, the range was reduced to about $1,000. (One extremely small and isolated school district has been excluded from the analysis.)

Equality of opportunities

In considering opportunities for students, it is also necessary to consider the different needs of individual students. For example, severely disabled learners require more resources than other learners in order to have the same opportunity to fulfill their potential.

In recognition of this, the province and school boards provide funding in excess of amounts spent on students in "regular" programs. These amounts have increased by 32 per cent (from $203.4 million to $269.3 million) over the last three years, an indication of the province's commitment to equity.



Testing and assessment are available for all students

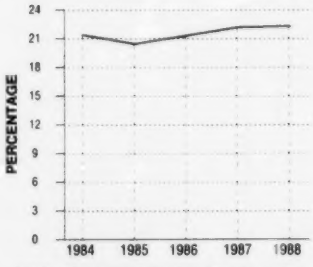
Education spending and the economy

Another way of looking at equity is to compare the resources allocated to education with the total value of the economy. This comparison should take into account the portion of the population that is actually being served by the education system.

An index may be constructed to show the relationship between spending on education and the economy. This index is calculated by dividing education spending per pupil by the gross domestic product per person (the gross domestic product is the value of goods and services produced in the provincial economy). The result of this calculation is the portion of the yearly value of the goods and services produced per person in B.C. devoted to educating a student for that year.

Of every dollar produced per person in B.C. in 1988, 22.2 cents was spent on education. Over the last 10 years this portion has remained around 21 cents, varying minimally from 19.3 cents to 22.4 cents.

Spending on education as a percentage of the gross domestic product, 1984 - 1988



NOTE: The percentage shows the proportion of the value of goods and services produced per person in B.C. spent on educating a student for one year

SOURCE: Program Evaluation and Research Branch; Central Statistics Bureau, Ministry of Finance and Corporate Relations

ACCOUNTABILITY

"Resources are allocated in a cost-effective manner; parents and the community are informed of the progress of schools and are involved as partners in planning."

Cost-effectiveness

A cost-effective system may be seen as one which provides good value for money spent. Such a system is effective (achieves its intended outcomes) and efficient (makes best possible use of resources in achieving those outcomes).

Public perceptions of cost-effectiveness

Most British Columbians think that the value for money spent on education is at least fair. About one-third think that the value is "good or excellent", almost half think it is "only fair", and about one-fifth say it is "poor".

The majority of people (64 per cent) think that about the right amount of money is being spent on education. In fact, a significant minority (24 per cent) think more money should be spent. Only seven per cent think that the amount being spent on education is too much.

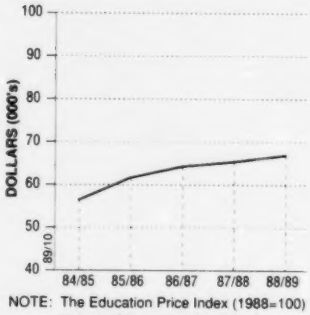
Resource allocation

An accountable education system will provide evidence of costs and the use of resources in providing an educational program to learners.

The cost of graduating a student

The cost of providing twelve years of education to a student is calculated by comparing the total per pupil operating costs during the twelve years each graduate was theoretically in the system with the number of graduates.

Cost of graduating a student (constant $1988), 1984/85 - 1988/89



NOTE: The Education Price Index (1988=100) was used to convert the cost of a graduate to constant dollars

SOURCE: Program Evaluation and Research Branch; Ministry of Finance and Corporate Relations (Central Statistics Bureau)

The cost of delivering an educational program to each student increased at a rate in excess of inflation. The cost of graduating an individual student rose from $56,825 in 1984/85 to $67,107 in 1988/89 (in constant 1988 dollars); an 18 per cent increase. Several changes in that period may have increased costs or reduced the likelihood that an individual would graduate. These include:

- ✔ the system's need to offer new and more specialized curricula and the emerging need for more support services (such as health care);
- ✔ increased graduation requirements;
- ✔ an increasing incidence of students with special educational requirements; and
- ✔ an increased likelihood for students to postpone graduation.

Given these changing expectations of the school system, an increase in the cost of graduating a student reflects the many things which schools must do.

Partners in planning; parents and community informed of progress of schools

In order to plan education programs that meet the needs of learners and their communities, the Ministry relies on input from administrators, educators, parents, education interest groups and the general public. In turn, education groups and the public are kept informed of the progress of schools through reporting at all levels of the education system.

Public input to the education system

In 1988/89, the Royal Commission on Education provided education groups and the public with an opportunity for direct input into the planning of British Columbia's education system into the next century and beyond.

Following the Royal Commission report, the Education Policy Advisory Committee (EPAC) was created, representing a wide range of community groups, including education, business, and special interest groups. EPAC played a vital role in developing education policies in response to the Royal Commission report.

Other major projects, such as curriculum development, involve ongoing consultation with teachers or groups representing teachers or principals. The Ministry also maintains a close relationship with education advocacy groups and professional organizations.

Input from the general public takes place at the community level through locally elected school boards, and at the provincial level through local MLAs.

Reporting to the community

Reporting to the community takes place at all levels of the education system.

At the provincial level, the Ministry of Education's Annual Report presents information on the overall state of B.C.'s education system. The Ministry also provides the public with details of major policy changes and developments on an ongoing basis. As well, the Ministry answers letters and briefs received from members of the public and the education community.

At the school district level, information profiles provide a clear picture of the performance of district schools in addressing the Ministry's goals and attributes. Some districts use the information gathered in the profile to produce a report for the board of school trustees and/or the public. These reports focus on topics such as student performance on provincial examinations, graduation rates, withdrawal rates, and district performance in meeting objectives and in providing better service to students.

School districts also provide information to their communities through reports created for school boards and through public meetings held to explain or discuss major changes in the district.

At the school level, reporting is carried out between schools and the community in the form of parent/teacher meetings, informational material distributed in communities, report cards on student progress and items on school events carried by the local media.

Various surveys indicate that the people of B.C. want more information on changes to the system, on funding, and on curriculum and programs.

How the public sees B.C. education

British Columbians think education is important. When asked what the government's top priority should be, more people chose education than chose issues such as the health care system, social welfare or economic development

People overwhelmingly agreed that the future funding of programs such as health care depends on the investment made in education today.

People also understood the need for change in the education system. More than 90 per cent of British Columbians supported the idea of improving and updating the system.

CONCLUSION

The British Columbia school system has eight broad objectives, including full or shared responsibility for the intellectual, human and social, and career development of students. Further, the system attempts to be accessible and relevant to the needs of learners and society, to make equitable use of resources and provide a quality staff, and to be accountable to the public (including operating in a cost-effective manner).

In 1988/89 the system began to renew its focus on the learner. New methods of assessing and reporting each student's achievements began to emerge.

Increasing co-operation among the various groups associated with education was evident.

There was a renewed emphasis on accountability at all levels of the system and, consequently, the public will soon be better informed about the successes of B.C.'s students.

Students in B.C. did well in 1988/89. For the second time in a row, B.C. learners performed well in international assessments. There is considerable evidence of students' commitment to excellence. Further, learners have demonstrated their participation in a broad array of activities intended to enable them to become educated citizens.

Despite the successes of B.C.'s students and the efforts of the education community to consult and communicate, it is apparent that public opinion only rates education as "fair".

Further, although the system is doing well with those students who remain in it, fewer than seven of every 10 students who enter Grade 8 continue to graduation. The development of new educational programs, intended to be more relevant to learners' needs, and better data collection regarding students' activities and performance, will enhance the ability of the system to identify the extent of the problem and to respond to this troublesome area.

Although there is room for improvement, students in B.C. are being given the opportunity to acquire the knowledge, skills and attitudes they will require to deal with the changing social and economic challenges they will face. The evidence suggests that the various partners in the education community are beginning to work together to meet the unique needs of each student.

SUPPLEMENT #1

FOCUSING ON THE LEARNER: THE SCHOOL SYSTEM RESPONDS to the SULLIVAN ROYAL COMMISSION

In the period following the Chant Royal Commission of 1960, significant economic, social, and cultural changes took place in society. British Columbia became an increasingly multicultural province. The information base and its technology grew rapidly. These, and other changes, led to a growing demand that the school system adapt itself to these new circumstances in order to prepare learners for the world that lay ahead of them.

The Commission and its report

On March 14, 1987, Barry M. Sullivan, Q.C., was appointed Commissioner of B.C.'s third Royal Commission on Education. His mandate was to "inquire into and . . . report on education in the Province from Kindergarten through Grade 12" (cited in *A Legacy for Learners*, 1988, p.5). The task of the inquiry was to examine all facets of the B.C. education system and to make recommendations for its future.

As Commissioner, Barry Sullivan conducted a province-wide consultative process. He visited 139 schools, held 66 public hearings, had 54 meetings with teachers, heard 227 presentations and received 2,112 written submissions. In addition, he appointed researchers to prepare a series of supporting papers.

The main report, *A Legacy For Learners*, was released on August 4, 1988. The report contained 83 recommendations, which were broad in scope rather than highly specific. They covered curriculum, teaching, finance, and a variety of educational issues. The report made it clear that British Columbia had a good education system that had served its people well, but that to remain relevant into the 21st century it needed to prepare both itself and its clients for change.

The fundamental point of the report was the need for consultation and co-operation with all stakeholders in any process of educational change resulting from the Royal Commission's report.

Reaction

Upon the release of the report, Government began an implementation process that emphasized consultation. The Minister of Education, The Honourable Anthony J. Brummet, met with representatives of various interest groups and community agencies and attended public meetings throughout the Province. Members of the public were invited to provide briefs outlining their views on the report. In total, the Minister met with representatives of 46 districts and received more than 600 formal responses.

The creation of an Education Policy Advisory Committee (EPAC) was announced with the release of the Sullivan Report on August 4, 1988. The EPAC was made up of specific groups of educational stakeholders, and its role was to provide advice to the Minister concerning the recommendations of the Royal Commission. The work of EPAC was instrumental in the development of the implementation strategy presented to Cabinet in December of 1988.

On January 27, 1989, Government announced that it had adopted a majority of the recommendations contained in the Commission's report. Two key documents, *Policy Directions* and the *Mandate Statement*, were released. These documents provide the foundation for all Government activities in the implementation of the Royal Commission agenda.

The *Mandate Statement* defines the mission of the school system in British Columbia and states the role of each stakeholder group in the education process. It presents the ideal of the educated citizen, the goals of education and the attributes of the school system, as well as Government's commitment to ensuring that children throughout the province have access to quality public schooling.

Policy Directions outlines Government's intentions regarding the Royal Commission recommendations. It indicates Government's commitment to change and provides direction on 22 broad issues.

Since the public release of these documents, the Ministry and EPAC have taken a number of significant steps toward further definition of these policy directions.

In April of 1989, a group of key B.C. educators met with Ministry personnel for a week-long seminar to discuss the proposed new curricula. This resulted in a draft paper entitled *Year 2000: A Curriculum and Assessment Framework for the Future*. This paper will be sent out for discussion in the fall of 1989.

Legislation

A new *School Act* and *Independent School Act* were introduced in the Legislature June 26, 1989. These two pieces of legislation were intended to enable implemention of the findings of the Royal Commission on Education and to consolidate various pieces of legislation into the two Acts. It is expected that these, along with related Regulations and Minister's Orders, will be in use by September 1, 1989.

Consistent with the Royal Commission recommendations and Ministry initiatives, the new *School Act* is broad and enabling. It will give school boards greater autonomy and will increase accountability. The Act will focus on students' and parents' rights and responsibilities and will provide for minority language rights. New provisions for the establishment of parents' advisory councils and appeals to a school board will also be included. Home schooling will be recognized as a legitimate alternative to public or independent school education.

Other new initiatives in the *School Act* are the provision of sections dealing with trustee conflict of interest and with the establishment of an Education Advisory Council (EAC), whose members will be appointed by the Minister to represent a broad spectrum of the community. The purpose of the council will be to advise the Minister on educational concerns through the Deputy Minister of Education. Generally, the new *School Act* will increase consultation at all levels of the community and will provide the legislative framework for implementing the Royal Commission recommendations.

Independent schools will continue to be governed by their own legislation. The new *Independent School Act* will require all independent schools in the Province to register with the Inspector of Independent Schools. The Inspector will have enhanced power to examine and assess programs, operations, and the administration of independent schools and may suspend or cancel the classification of any independent school failing to comply with the Act.

The *Independent School Act* will also recognize a new group classification for enhanced funding. Schools that meet all the general criteria for funding and that have per student operating costs equal to or less than the per student operating costs of a public school in the same district will be funded at the fifty per cent level. Two categories of non-funded independent schools will be recognized in addition to the three categories of funded schools.

The implementation plan

A draft version of the implementation plan has been reviewed by the EPAC and will be released in September 1989. It identifies the major projects and projected timelines for the changes planned for the next ten years.

Principal components of the plan are described below.

The EPAC will be replaced by the Education Advisory Council (EAC) in September, 1989. The EAC will provide a similar function on a permanent basis.

The new Primary Program will enable learners to progress through their first four years of schooling at their own pace rather than in a lock-step fashion. This shift away from grades is expected to reduce the detrimental effects that early failure has on students' later success in school, and should reduce the rate at which learners leave school. Systems are being developed for monitoring and reporting student progress so that learners and parents can be effectively informed.

Work on the Intermediate and Graduation Programs will begin in 1989/90. The Intermediate Program will focus on learners by providing them with opportunities that are appropriate to their development and interests. The direction of the Graduation Program will be toward providing learners with several ways of earning a graduation certificate depending on their interests and career plans.

The Ministry of Education is also changing the kind of programs and curriculum it develops. Following the directions of the Royal Commission, the Ministry has adopted the concept of a Common Curriculum. This new approach to curriculum groups subjects into four categories: Humanities, Sciences, Fine Arts, and Practical Arts. This eliminates unnecessary overlap and artificial differences among disciplines. This curriculum will form a common base of knowledge, skills, and attitudes for all students from the Primary Progam through the Graduation Program.

Individual learner needs are also met through locally developed courses and provincially authorized elective (optional) courses. These courses allow learners to select programs which best fit their individual needs.

The accountability of school boards to the local community and the general public will be improved through the provision of reports about the performance of their schools. Schools, districts and the Ministry will be assisted through this process to plan and implement change. Yearly reports will be an important component of this accountability process.

The position that teaching is a profession worthy of respect and support will be reinforced. Excellence in teaching will be recognized through an awards program, and the supply of qualified teachers will be increased through liaison with universities. There is also a loan forgiveness plan to encourage teachers to work in remote areas of the province.

The relevance and responsiveness of the school system to native Indian students will be increased, as will awareness of native Indian culture among all students. Special grants will be made to help First Nations children preserve their linguistic and cultural heritage through the development of appropriate programs.

The involvement of parents in school district governance will be increased through parent advisory committees. Workshops will be provided for trustees and district and school administrators, particularly in remote areas, to enhance their understanding of provincial initiatives and programs.

Curriculum and learning materials will be carefully reviewed to ensure gender equity. Hiring policies and practices will also be reviewed. Students will be provided with information about non-traditional career opportunities.

ESL and multiculturalism issues and the growing cultural diversity among learners will be better reflected in curricula and programs. Cultural understanding and respect among students will be promoted. All students will understand the values of their cultural heritage through the inclusion of multi-cultural topics in the curriculum, and will be prepared to contribute to Canadian society. Guidelines for staffing in terms of multicultural balance will be developed, and prospective teaching materials will be reviewed.

Certain support services needed to help students reach their potential in education will be provided by the appropriate Ministry. Protocols for this, and resources for curricular adaptations for special needs students, will be developed.

All students receiving home schooling will be registered with a public school, regional correspondence school, independent school, or with the Minister. Evaluation and assessment services will be provided for these students.

Parents will retain the opportunity to enrol their children in independent schools. New funding categories have been established for independent schools. All independent schools will be registered with the Ministry.

The future

An exciting new education system is being developed which enhances the many positive features of the current system while adding new ideas more relevant to the needs of individuals entering the 21st century. The new system reflects the concepts stressed by the Royal Commission, including more individualized instruction, a consultative process, increased reporting to parents and the community, and an emphasis on enabling each learner to reach his or her full potential.

SUPPLEMENT #2

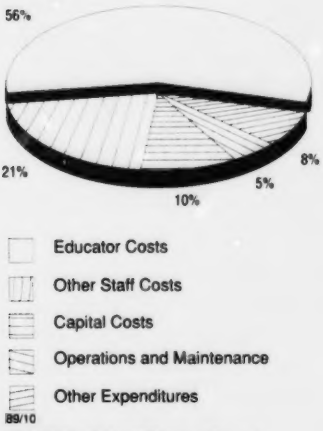
THE FINANCING OF EDUCATION in BRITISH COLUMBIA

In B.C., the two basic sectors of the school system (public and independent) are financed through different, but related, processes.

Public schools

Responsibility for funding the public school system is shared by the provincial government and school boards.

How the money is spent, 1988/89



SOURCE: School Finance Branch

In 1988/89, that system required a total of $2.3 billion to operate.

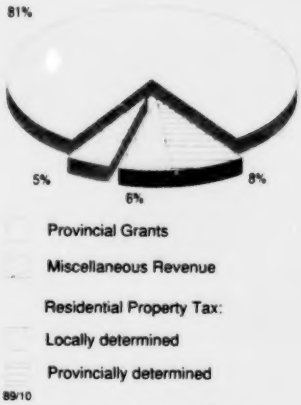
Spending on public schools

Of the $2.3 billion spent in 1988/89 to operate the public school system, 56 per cent went to educators' salaries and related costs, 21 per cent went to other staff costs, while the remaining 23 per cent funded operations and maintenance, capital and other costs.

Sources of revenue for public school spending

About 81 per cent of the cost of education is funded by the provincial government from general revenue. This includes sales tax revenue, income tax revenue, and property tax on commercial and industrial property. About 14 per cent of the cost is funded through local residential property taxes, including amounts determined by the Province (8%) and by local school boards (6%). The remaining five per cent is funded through miscellaneous revenues collected by school boards.

Paying for public schools, 1988/89



SOURCE: School Finance Branch

Residential Property Taxation

Residential property taxes are collected every year in support of public education. The taxes collected in any calendar year reflect the two school years that the calendar year overlaps. For example, taxes collected in 1988 funded part of the 1987/88 school year and part of the 1988/89 school year.

A provincial Home Owner Grant reduces the actual property taxes paid by qualifying home owners. The grant ($430 for most home owners, $700 for seniors) is applied first to school taxes. "Excess" amounts may be applied against local taxes. As a result of the program, a significant number of taxpayers would pay little or no school tax. However, the Province's minimum property tax program ensures all home owners pay some property tax. In 1988, the Home Owner Grant reduced the amount payable by residential property taxpayers from $605.7 million to $306.8 million.

Independent schools

The province partially funds the operating costs of independent schools, but does not contribute to their capital costs.

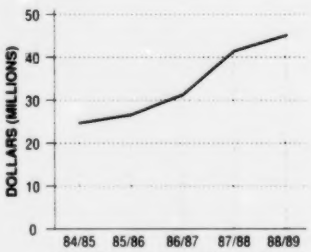
The process

Independent schools are provided a per pupil grant. The grant is based on a percentage of the per pupil operating costs of the public school district in which the independent school is located. Therefore, independent school grants are dependent upon public school operating costs and the enrolment in independent schools.

Group 1 independent schools received per pupil grants based on 10 per cent of the per pupil operating costs in the public school district. Group 2 independent school grants were set at the 35 per cent level.

In 1988/89, grants to approved independent schools were tentatively set at about $46 million. This represented an increase of about $4 million over the previous year. An additional $2 million was allocated for special education.

Grants to funded independent schools, 1984/85 - 1988/89



SOURCE: Independent Schools Branch

Facilities management

In association with school boards, the Ministry produces an annual capital budget for the construction of new buildings, the renovation of existing buildings, the correction of unsafe conditions (including earthquake preparedness upgrading), and the provision of equipment and transportation required by public schools .

The Ministry priorizes projects requested by school boards. Projects that are funded are monitored by the Ministry.

In 1988/89, the budgeted costs for school boards to operate and maintain school buildings was $300.2 million, compared with $282.8 million in 1987/88.

During 1988/89, $142.5 million in capital funding was approved for new space, equipment, bus replacement, minor renovations, and emergency projects. Capital works for 1988/89, together with capital projects in prior years, resulted in an annual debt service cost of $171.0 million in 1988/89.

During the fiscal year, capital funding included renovations to provide access for the handicapped. This ongoing program ensures that all facilities will be accessible to the handicapped in the near future.

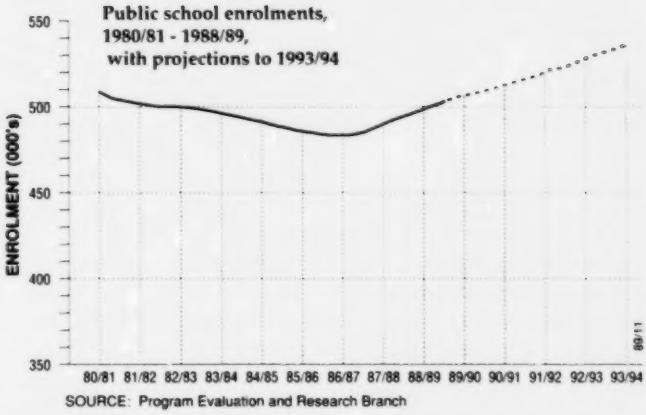
Aging facilities

According to available information, approximately 75 per cent of school space is more than 20 years old, including 20 per cent which are more than 40 years old. Commencing in 1988/89, each school board was allocated an annual "capital allowance" based on a formula derived from the size, age, and insured value of its facilities. This allowance provides regular support for renovation and maintenance of facilities.

SUPPLEMENT #3

EDUCATOR SUPPLY and DEMAND

Enrolment growth



SOURCE: Program Evaluation and Research Branch

There has been a steady growth in the provincial population, including school aged children, over the last five years. Elementary school enrolment continues to grow, and the decline in secondary school enrolment is projected to reverse by 1990/91.

Enrolment projections indicate that within five years (the 1993/94 school year) enrolment will approximate 539,000 — a student increase of 39,000 (eight per cent) over current enrolment.

Certification of new teachers

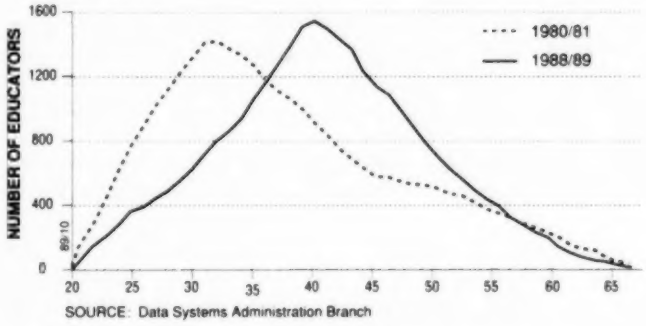
Until 1986/87, the number of provincially trained educators qualifying for initial certification had been decreasing. The decline reflected the declining number of teaching opportunities for graduates, which in turn, was largely caused by declining enrolments experienced in the past. Increases in the pupil-educator ratio also reduced openings for new educators. The turn-around in 1986/87 resulted from publicity associated with a potential educator shortage and a growing number of new teaching opportunities.

The College of Teachers is responsible for teacher certification. It is estimated (the College's reporting year differs from the school year) that between September, 1988 and August 31, 1989, approximately 1,900 teaching certificates were issued by the College, compared with 2,625 in 1987/88. During the same period, 1,293 Faculty of Education students qualified for their initial certification, compared with 1,230 in 1986/87.

Age distribution of the teaching force

Since 1980/81, the average age of the teaching force has been gradually increasing. Despite the retirement of 422 educators during the 1988/89 school year, the average age of the teaching force remains at 41. It should also be noted that an even larger percentage of educators now falls in the 41-50 and 51+ age ranges. A "retirement bulge" may have a significant effect on the supply and demand of educators in the next five to 10 years. A number of additional educators will also be required to replace those who leave the profession for other reasons and to accommodate projected enrolment growth.

Age distribution of the teaching force, 1980/81, 1988/89



SOURCE: Data Systems Administration Branch

Implications

The combination of continued enrolment growth, an aging teaching force, and low Faculty of Education enrolment raises legitimate concerns about the supply of educators to meet the potential demand. During the next school year, the Ministry of Education will conduct further studies on supply and demand with the objective of attempting to predict more accurately the Province's future educator requirements.

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